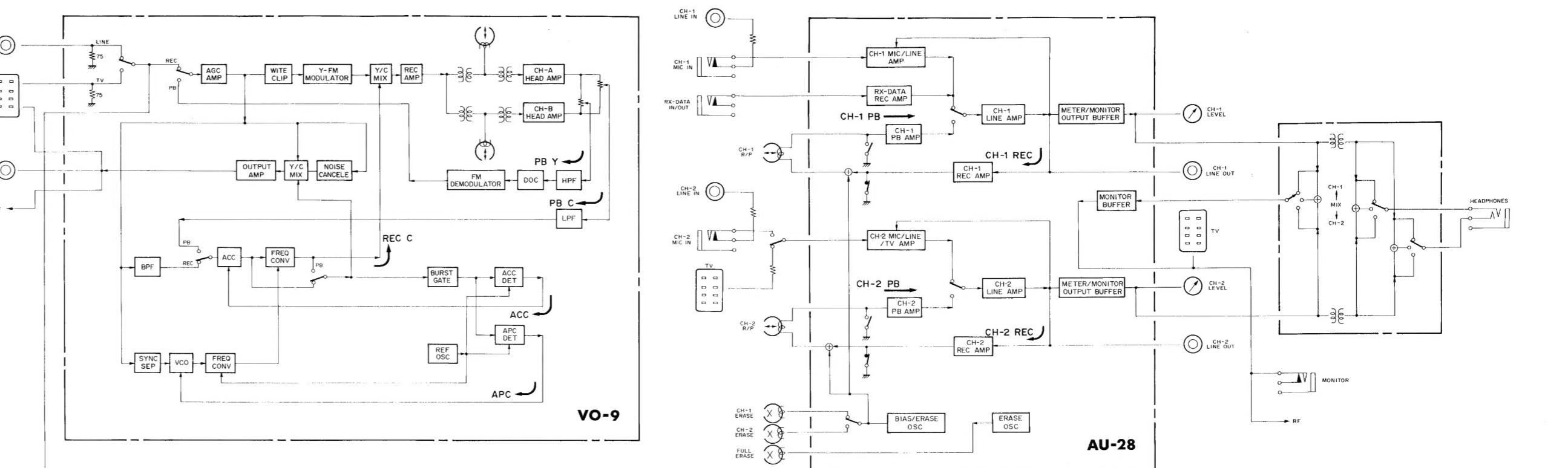


CIRCUIT FUNCTION OF THE PRINTED CIRCUIT BOARD

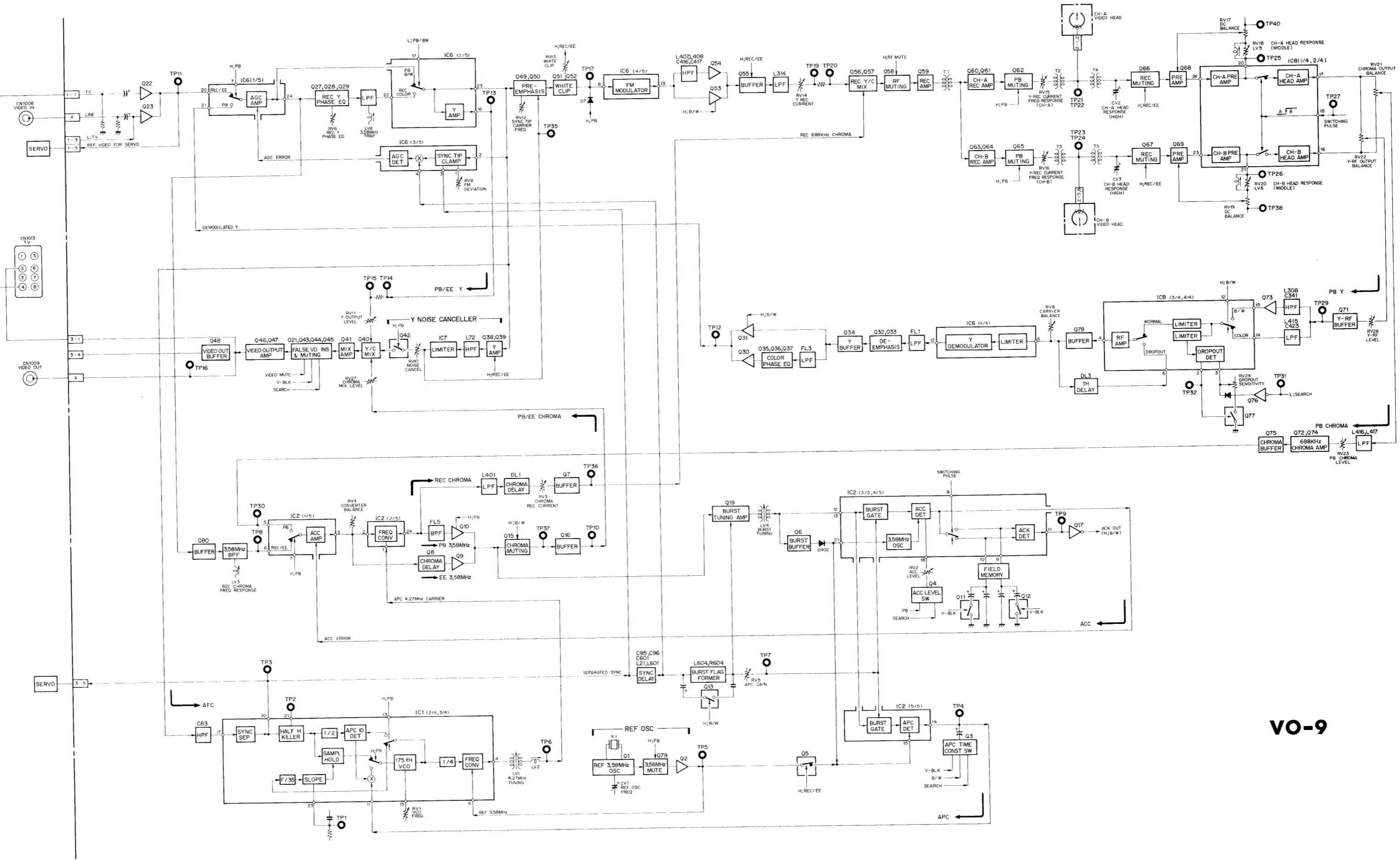
The Circuit Board Information is Provided Below

SYSTEM	BOARD	CIRCUIT FUNCTION
VIDEO	VO-9	*Luminance and Chrominance Signal Modulator/Demodulator
AUDIO	AH-3	*Audio REC/PB/ERASE and CTL REC/PB Head
	AU-28	*Audio REC/PB Amplifier *Bias/Erase Oscillator
	EC-19	*Full Erase Head
	HP-6	*Headphones Jack/Level Control
	MC-14	*Audio Meter/Level and Tracking Control
	MI-5	*CH-1/CH-2 Mic Input
SERVO	DR-17	*Drum/Capstan Driver
	SV-44	*Drum/Capstan Speed and Phase PWM Servo
POWER	AC-26	*AC input
	DC-13	*Power Supply/Regulator
	UR-01	*Switching Regulator
SYSTEM CONTROL	CC-9	*Cassette Compartment Motor/Pilot Lamp
	CC-10	*Cassette In Detector
	CC-11	*Cassette Down Detector
	CN-42	*Connection Board
	FR-11	*Threading Ring Mechanical Position Detector
	KY-21	*Function Key Board *Display Driver *Mode/Input/Monitor Select
	LM-9	*Threading Motor
	MR-8	*Threading/CC Motor Driver
	MR-11A	*Reel Motor Control/Driver *Skew/Search/Pinch Solenoid Driver
	PD-16A	*Take up Idler/Brake Supply Idler/Brake Driver
	PH-4	*Tension Regulator
	PH-5	*Tape End/Tape Beginning Sensor
	PT-9	*Reel Motor Power Driver
	SW-43	*Supply/Take up Rotation Detecter
	SW-46	*Miss Rec Detect
	SW-50	*FR Unthread End Detect
	SY-75	*System Control

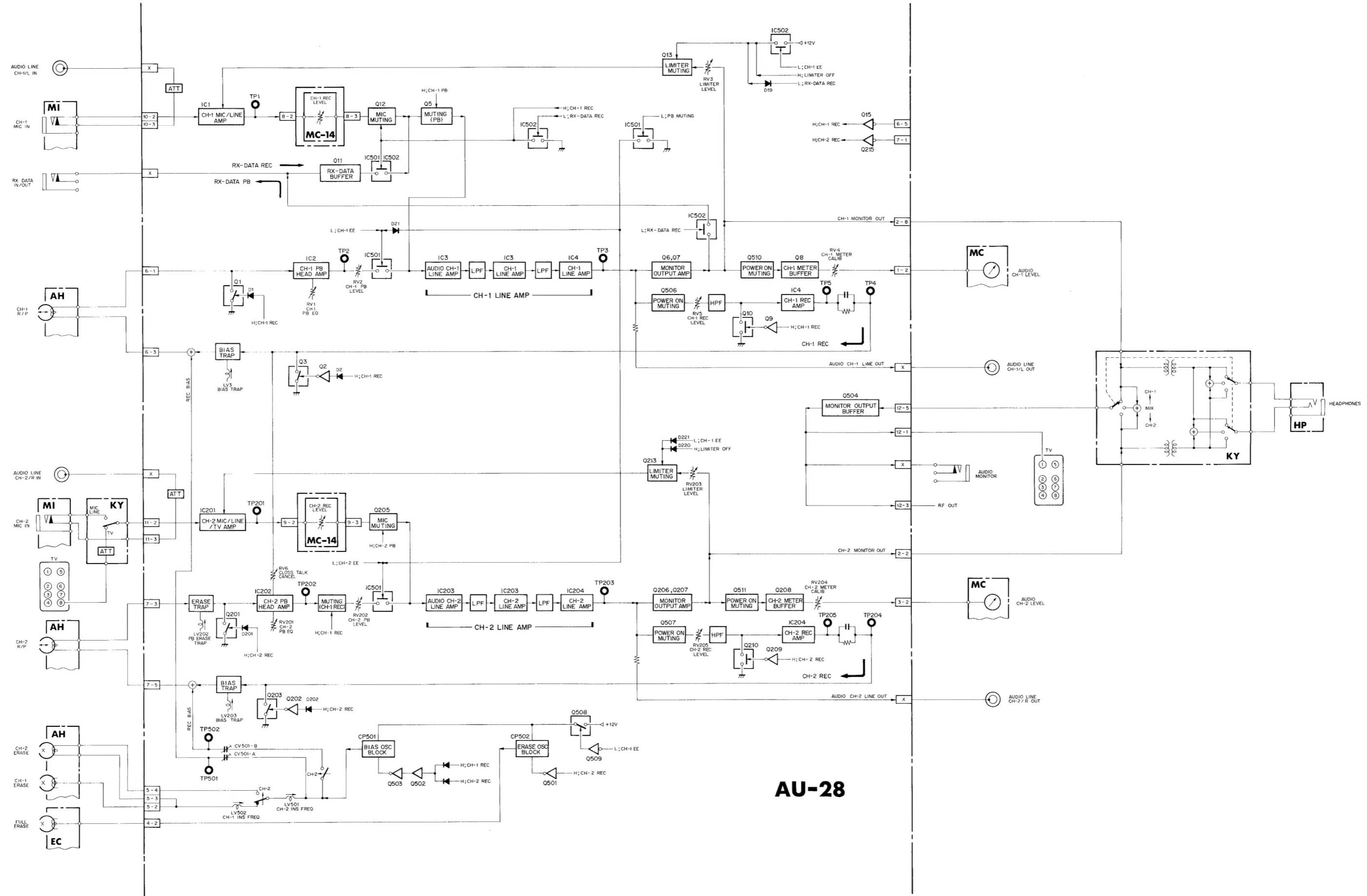
OVERALL BLOCK DIAGRAM



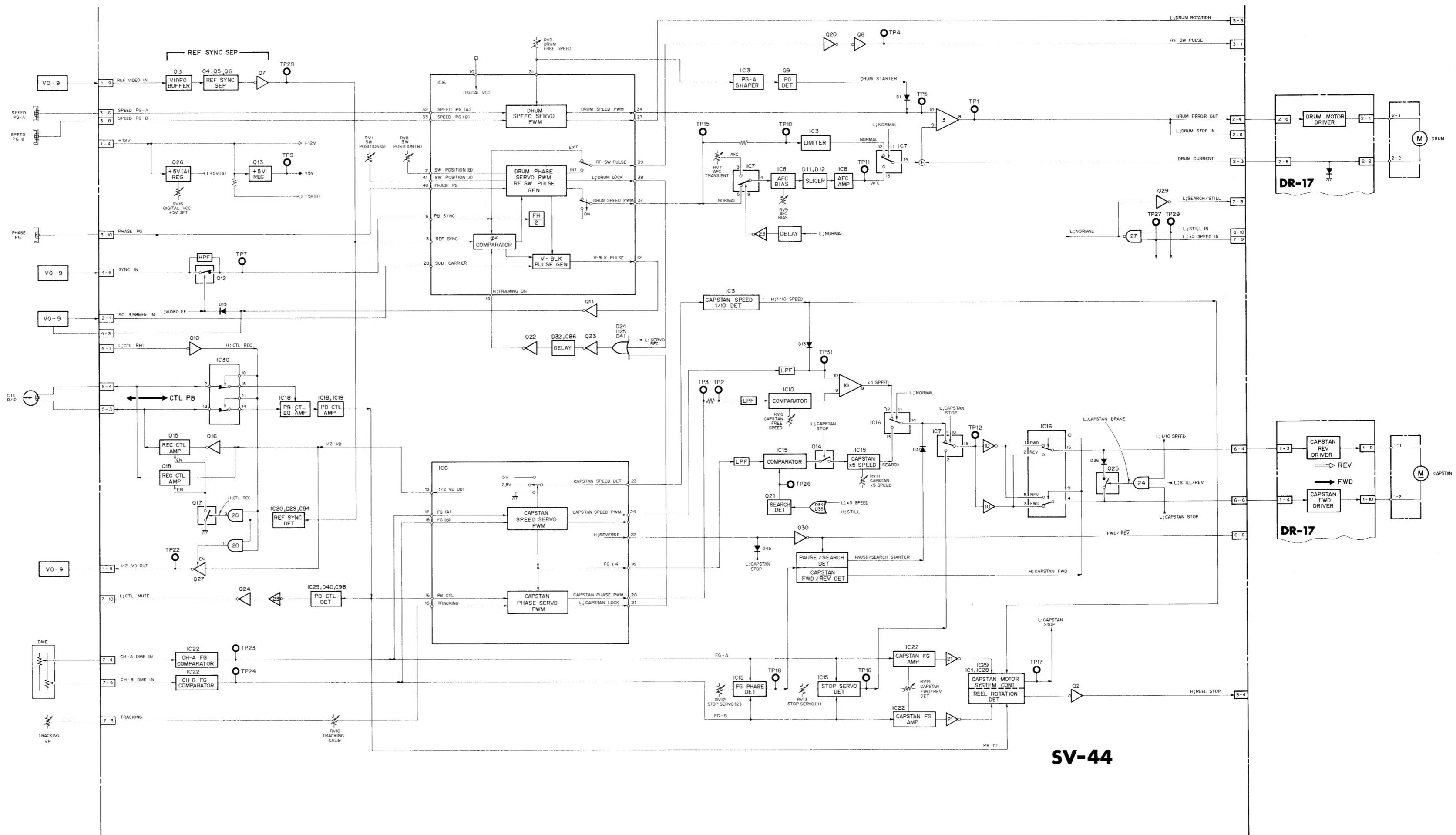
## VIDEO SYSTEM BLOCK DIAGRAM



## AUDIO SYSTEM BLOCK DIAGRAM



## SERVO SYSTEM BLOCK DIAGRAM



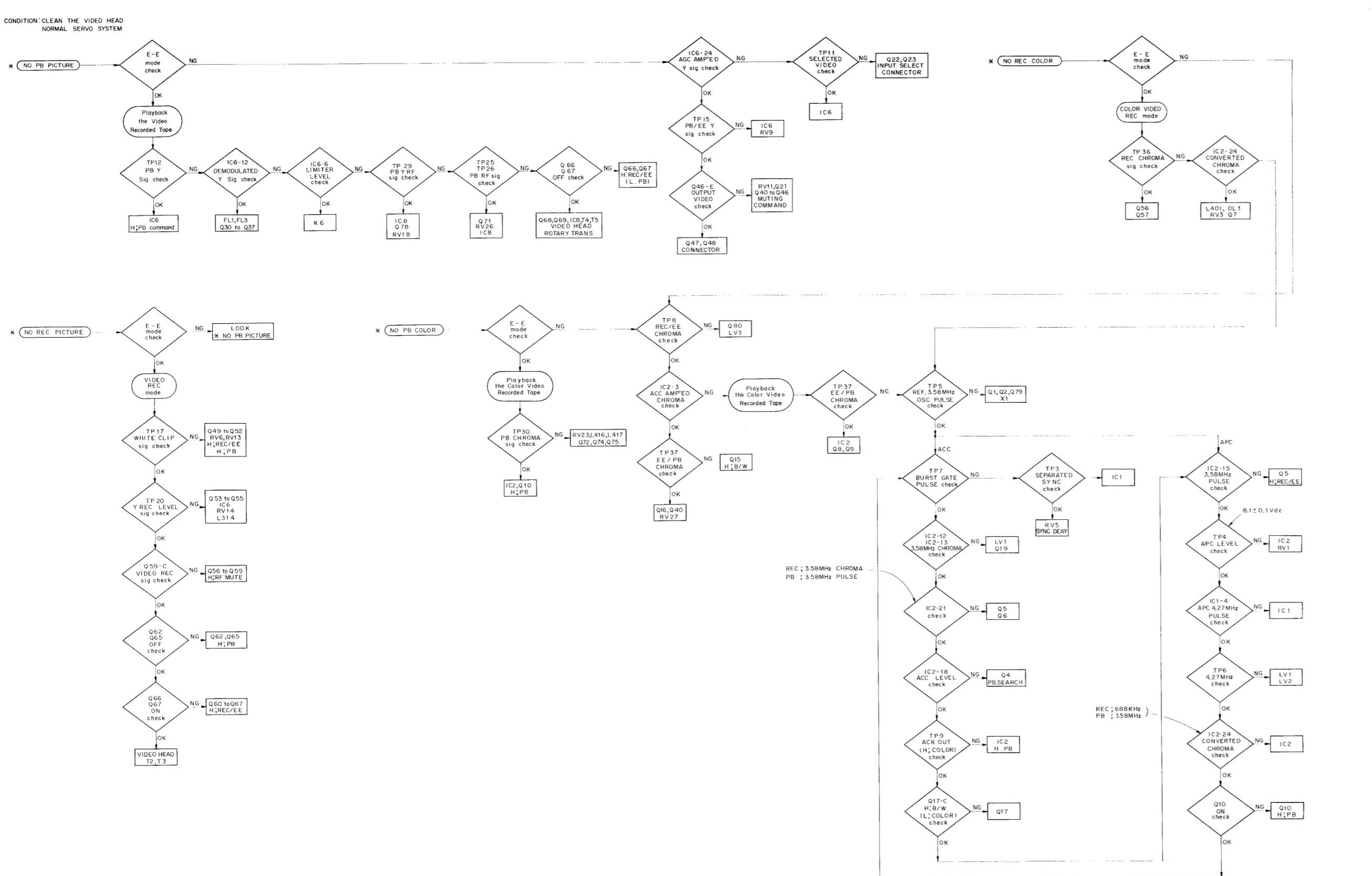
V-44

# **DEO FLOW CHART**

# AUDIO FLOW CHART

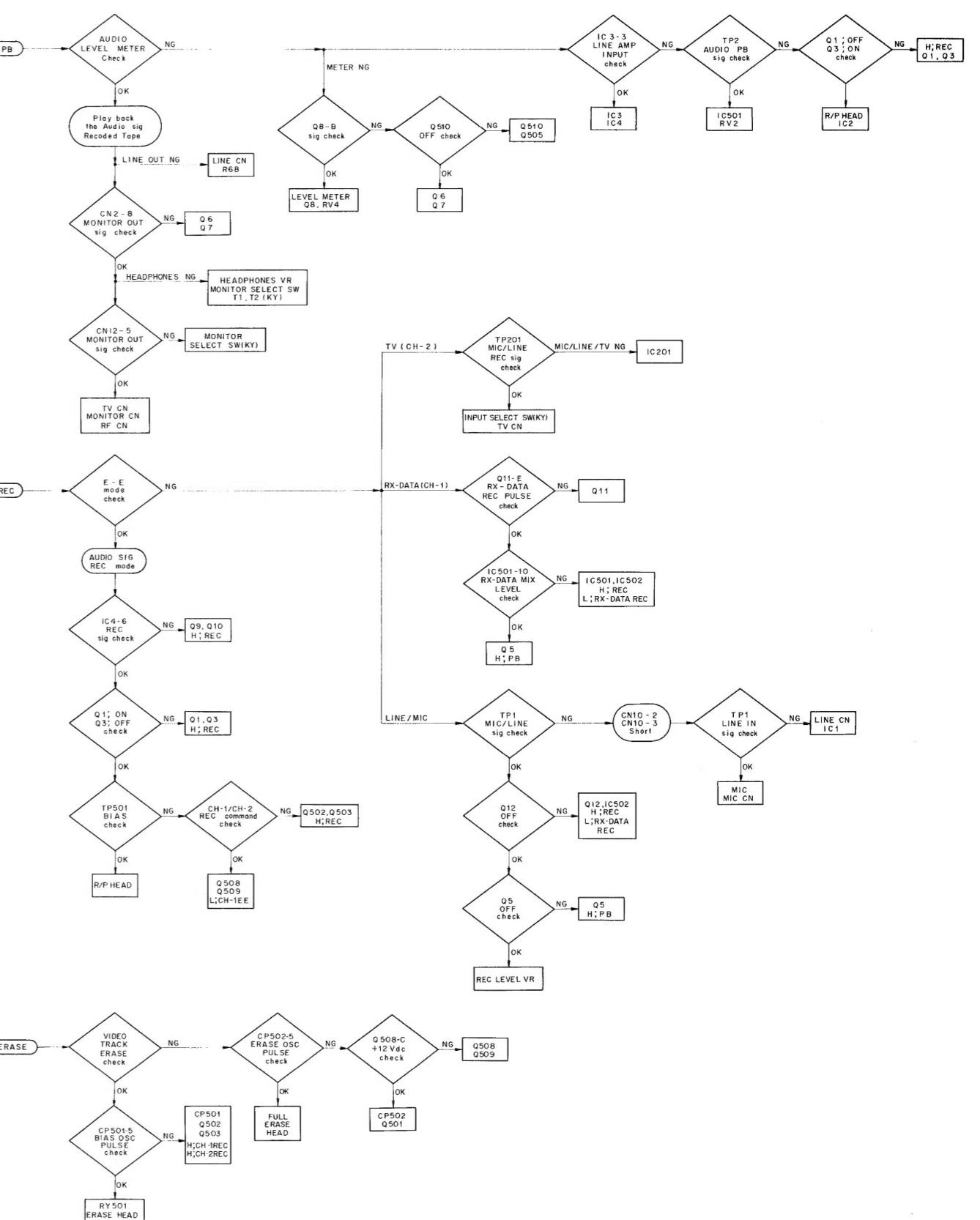
## SECTION 13 FLOW CHART

## **VIDEO SYSTEM FLOW CHART**



## **FLOW CHART**

LEAN THE AUDIO HEAD

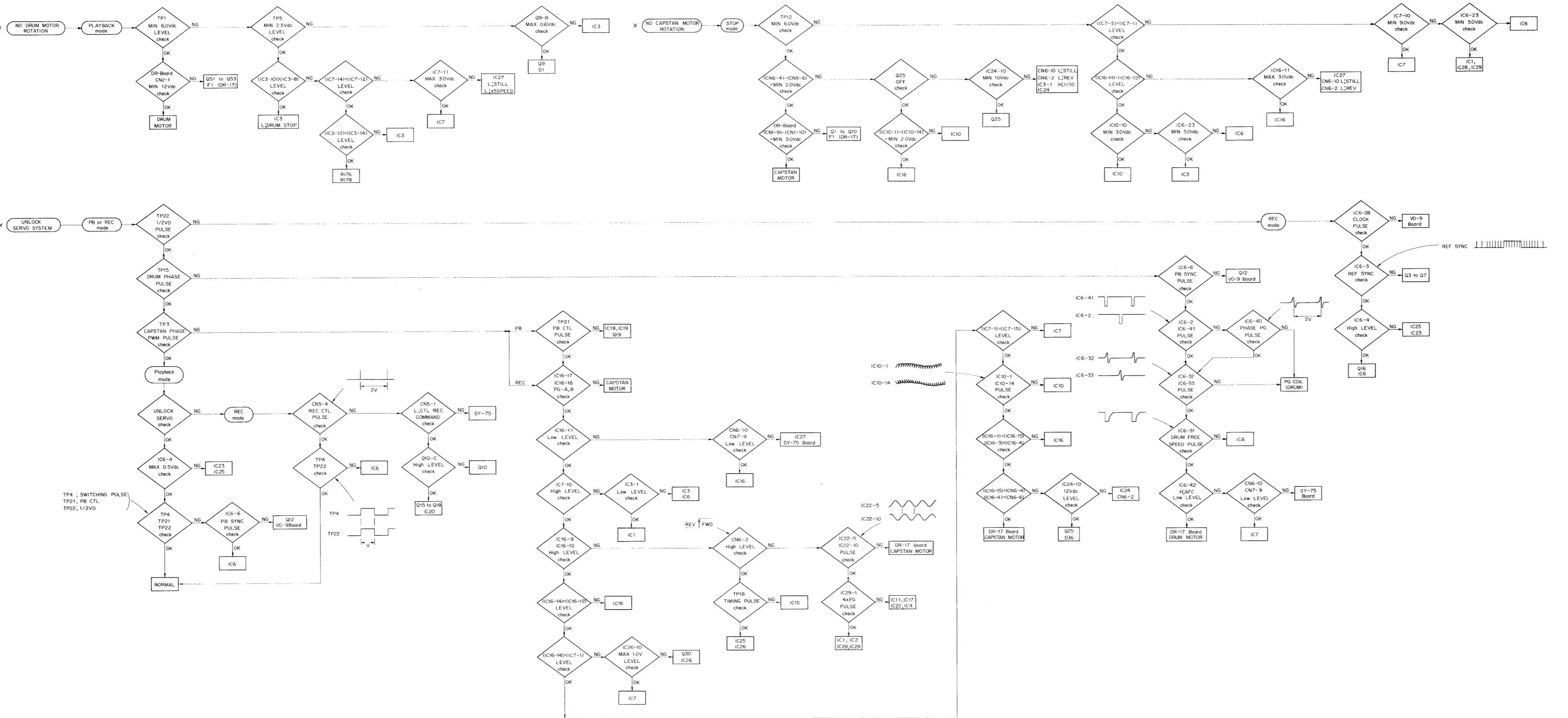


## SERVO FLOW CHART

## SERVO FLOW CHART

## SERVO SYSTEM FLOW CHART

CONDITION ; CLEAN THE CTL HEAD  
NORMAL VIDEO SYSTEM



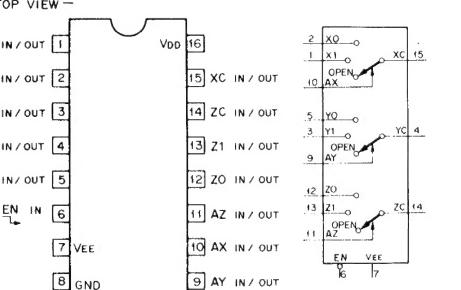
## SEMICONDUCTOR ELECTRODES

## SEMICONDUCTOR ELECTRODES

## SEMICONDUCTOR ELECTRODES

## SEMICONDUCTOR ELECTRODES

CD4053AE/BE (RCA)  
TC4053BP (TOSHIBA)  
HD4053BP (HITACHI)  
C-MOS 2-CHANNEL MULTIPLEXER / DEMULTIPLEXER  
TOP VIEW



CD4073AE/BE (RCA)

TC4073BP (TOSHIBA)

C-MOS 3-INPUT POSITIVE AND GATE

TOP VIEW

$$Y = A \cdot B \cdot C + \bar{A} \cdot \bar{B} \cdot \bar{C}$$

Y =  $A \cdot B \cdot C + \bar{A} \cdot \bar{B} \cdot \bar{C}$

Y =  $\bar{A} \cdot B \cdot C + A \cdot \bar{B} \cdot \bar{C}$

Y =  $\bar{A} \cdot \bar{B} \cdot C + A \cdot B \cdot \bar{C}$

Y =  $A \cdot B \cdot \bar{C} + \bar{A} \cdot B \cdot C$

Y =  $\bar{A} \cdot B \cdot \bar{C} + A \cdot \bar{B} \cdot C$

Y =  $A \cdot \bar{B} \cdot \bar{C} + \bar{A} \cdot B \cdot C$

Y =  $\bar{A} \cdot \bar{B} \cdot \bar{C} + \bar{A} \cdot B \cdot C$

Y =  $\bar{A} \cdot B \cdot C + A \cdot \bar{B} \cdot C$

Y =  $A \cdot B \cdot C + \bar{A} \cdot \bar{B} \cdot C$

Y =  $A \cdot B \cdot C + A \cdot \bar{B} \cdot \bar{C}$

Y =  $A \cdot B \cdot \bar{C} + \bar{A} \cdot B \cdot C$

Y =  $\bar{A} \cdot B \cdot C + A \cdot B \cdot \bar{C}$

Y =  $A \cdot B \cdot C + A \cdot B \cdot \bar{C}$

Y =  $A \cdot \bar{B} \cdot C + \bar{A} \cdot B \cdot C$

Y =  $\bar{A} \cdot B \cdot C + A \cdot B \cdot C$

Y =  $\bar{A} \cdot B \cdot C + A \cdot \bar{B} \cdot C$

Y =  $A \cdot B \cdot \bar{C} + \bar{A} \cdot B \cdot C$

Y =  $\bar{A} \cdot \bar{B} \cdot C + A \cdot B \cdot C$

Y =  $\bar{A} \cdot \bar{B} \cdot C + \bar{A} \cdot B \cdot C$

Y =  $\bar{A} \cdot B \cdot \bar{C} + A \cdot \bar{B} \cdot C$

Y =  $\bar{A} \cdot B \cdot C + A \cdot \bar{B} \cdot \bar{C}$

Y =  $A \cdot \bar{B} \cdot \bar{C} + \bar{A} \cdot B \cdot \bar{C}$

Y =  $\bar{A} \cdot \bar{B} \cdot \bar{C} + \bar{A} \cdot B \cdot \bar{C}$

Y =  $\bar{A} \cdot B \cdot C + A \cdot \bar{B} \cdot \bar{C}$

Y =  $\bar{A} \cdot \bar{B} \cdot C + A \cdot B \cdot \bar{C}$

Y =  $\bar{A} \cdot \bar{B} \cdot C + \bar{A} \cdot B \cdot \bar{C}$

Y =  $A \cdot \bar{B} \cdot \bar{C} + \bar{A} \cdot \bar{B} \cdot C$

Y =  $\bar{A} \cdot \bar{B} \cdot \bar{C} + \bar{A} \cdot \bar{B} \cdot C$

Y =  $\bar{A} \cdot B \cdot C + \bar{A} \cdot \bar{B} \cdot C$

Y =  $A \cdot \bar{B} \cdot C + \bar{A} \cdot B \cdot \bar{C}$

Y =  $\bar{A} \cdot \bar{B} \cdot \bar{C} + \bar{A} \cdot B \cdot C$

Y =  $\bar{A} \cdot B \cdot C + A \cdot \bar{B} \cdot \bar{C}$

Y =  $\bar{A} \cdot \bar{B} \cdot C + A \cdot B \cdot \bar{C}$

Y =  $\bar{A} \cdot \bar{B} \cdot C + \bar{A} \cdot B \cdot \bar{C}$

Y =  $A \cdot \bar{B} \cdot \bar{C} + \bar{A} \cdot \bar{B} \cdot C$

Y =  $\bar{A} \cdot \bar{B} \cdot \bar{C} + \bar{A} \cdot \bar{B} \cdot C$

Y =  $\bar{A} \cdot B \cdot C + \bar{A} \cdot \bar{B} \cdot C$

Y =  $A \cdot \bar{B} \cdot C + \bar{A} \cdot B \cdot \bar{C}$

Y =  $\bar{A} \cdot \bar{B} \cdot \bar{C} + \bar{A} \cdot B \cdot C$

Y =  $\bar{A} \cdot B \cdot C + A \cdot \bar{B} \cdot \bar{C}$

Y =  $\bar{A} \cdot \bar{B} \cdot C + A \cdot B \cdot \bar{C}$

Y =  $\bar{A} \cdot \bar{B} \cdot C + \bar{A} \cdot B \cdot \bar{C}$

Y =  $A \cdot \bar{B} \cdot \bar{C} + \bar{A} \cdot \bar{B} \cdot C$

Y =  $\bar{A} \cdot \bar{B} \cdot \bar{C} + \bar{A} \cdot \bar{B} \cdot C$

Y =  $\bar{A} \cdot B \cdot C + \bar{A} \cdot \bar{B} \cdot C$

Y =  $A \cdot \bar{B} \cdot C + \bar{A} \cdot B \cdot \bar{C}$

Y =  $\bar{A} \cdot \bar{B} \cdot \bar{C} + \bar{A} \cdot B \cdot C$

Y =  $\bar{A} \cdot B \cdot C + A \cdot \bar{B} \cdot \bar{C}$

Y =  $\bar{A} \cdot \bar{B} \cdot C + A \cdot B \cdot \bar{C}$

Y =  $\bar{A} \cdot \bar{B} \cdot C + \bar{A} \cdot B \cdot \bar{C}$

Y =  $A \cdot \bar{B} \cdot \bar{C} + \bar{A} \cdot \bar{B} \cdot C$

Y =  $\bar{A} \cdot \bar{B} \cdot \bar{C} + \bar{A} \cdot \bar{B} \cdot C$

Y =  $\bar{A} \cdot B \cdot C + \bar{A} \cdot \bar{B} \cdot C$

Y =  $A \cdot \bar{B} \cdot C + \bar{A} \cdot B \cdot \bar{C}$

Y =  $\bar{A} \cdot \bar{B} \cdot \bar{C} + \bar{A} \cdot B \cdot C$

Y =  $\bar{A} \cdot B \cdot C + A \cdot \bar{B} \cdot \bar{C}$

Y =  $\bar{A} \cdot \bar{B} \cdot C + A \cdot B \cdot \bar{C}$

Y =  $\bar{A} \cdot \bar{B} \cdot C + \bar{A} \cdot B \cdot \bar{C}$

Y =  $A \cdot \bar{B} \cdot \bar{C} + \bar{A} \cdot \bar{B} \cdot C$

Y =  $\bar{A} \cdot \bar{B} \cdot \bar{C} + \bar{A} \cdot \bar{B} \cdot C$

Y =  $\bar{A} \cdot B \cdot C + \bar{A} \cdot \bar{B} \cdot C$

Y =  $A \cdot \bar{B} \cdot C + \bar{A} \cdot B \cdot \bar{C}$

Y =  $\bar{A} \cdot \bar{B} \cdot \bar{C} + \bar{A} \cdot B \cdot C$

Y =  $\bar{A} \cdot B \cdot C + A \cdot \bar{B} \cdot \bar{C}$

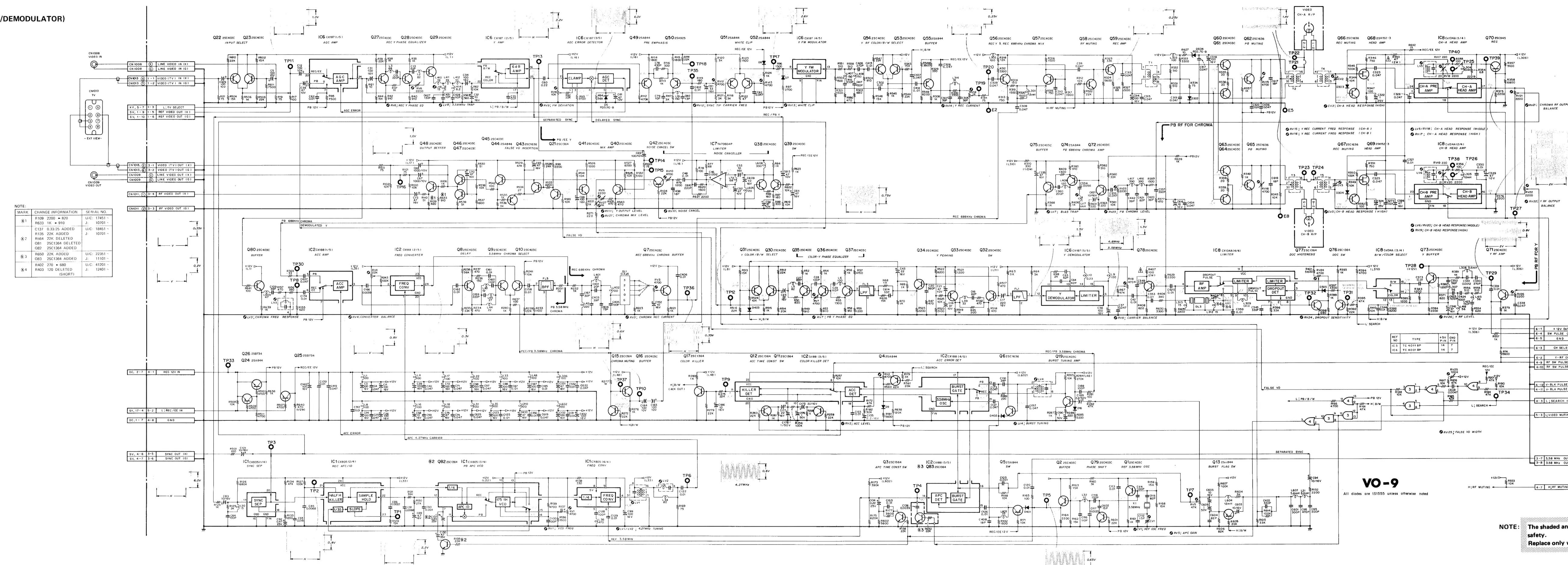
Y =  $\bar{A} \cdot \bar{B} \cdot C + A \cdot B \cdot \bar{C}$

Y =  $\bar{A} \cdot \bar{B} \cdot C + \bar{A} \cdot B \cdot \bar{C}$

Y =  $A \cdot \bar{B} \cdot \bar{C} + \bar{A} \cdot \bar{B} \cdot C$

Y =  $\bar{A} \cdot \bar{B} \cdot \bar{C} + \bar{A} \cdot \bar{B} \cdot C</math$

**VO-9**  
(VIDEO MOD/DEMODULATOR)  
DS-14



**NOTE:**  
The shaded and **!**-marked components are critical to safety.  
Replace only with same components as specified.

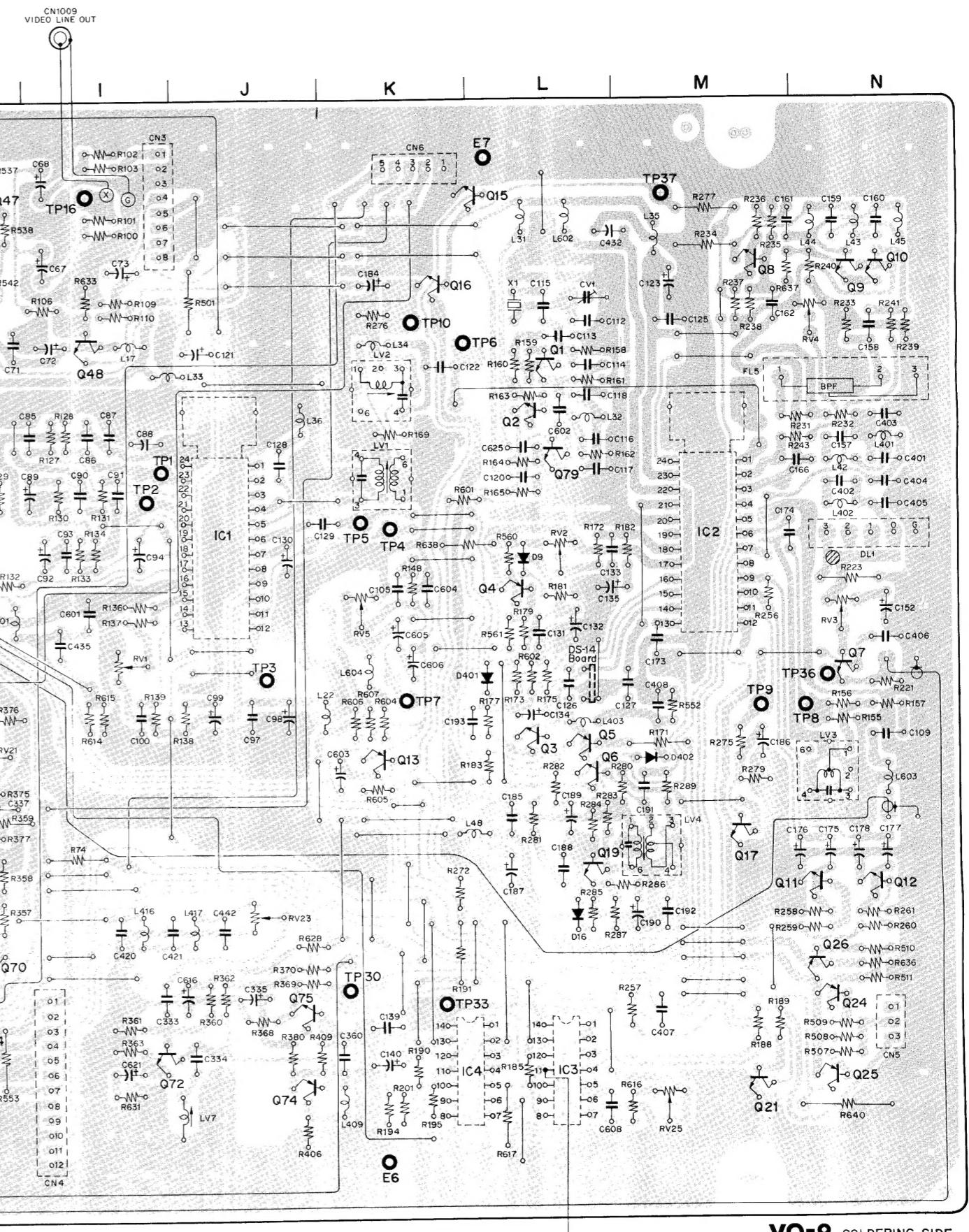
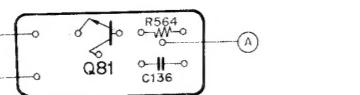
**VO-9**

All diodes are 1S1555 unless otherwise noted

VO-9  
(VIDEO MOD/DEMODULATOR)  
DS-14

UP TO 12050 (U/C)

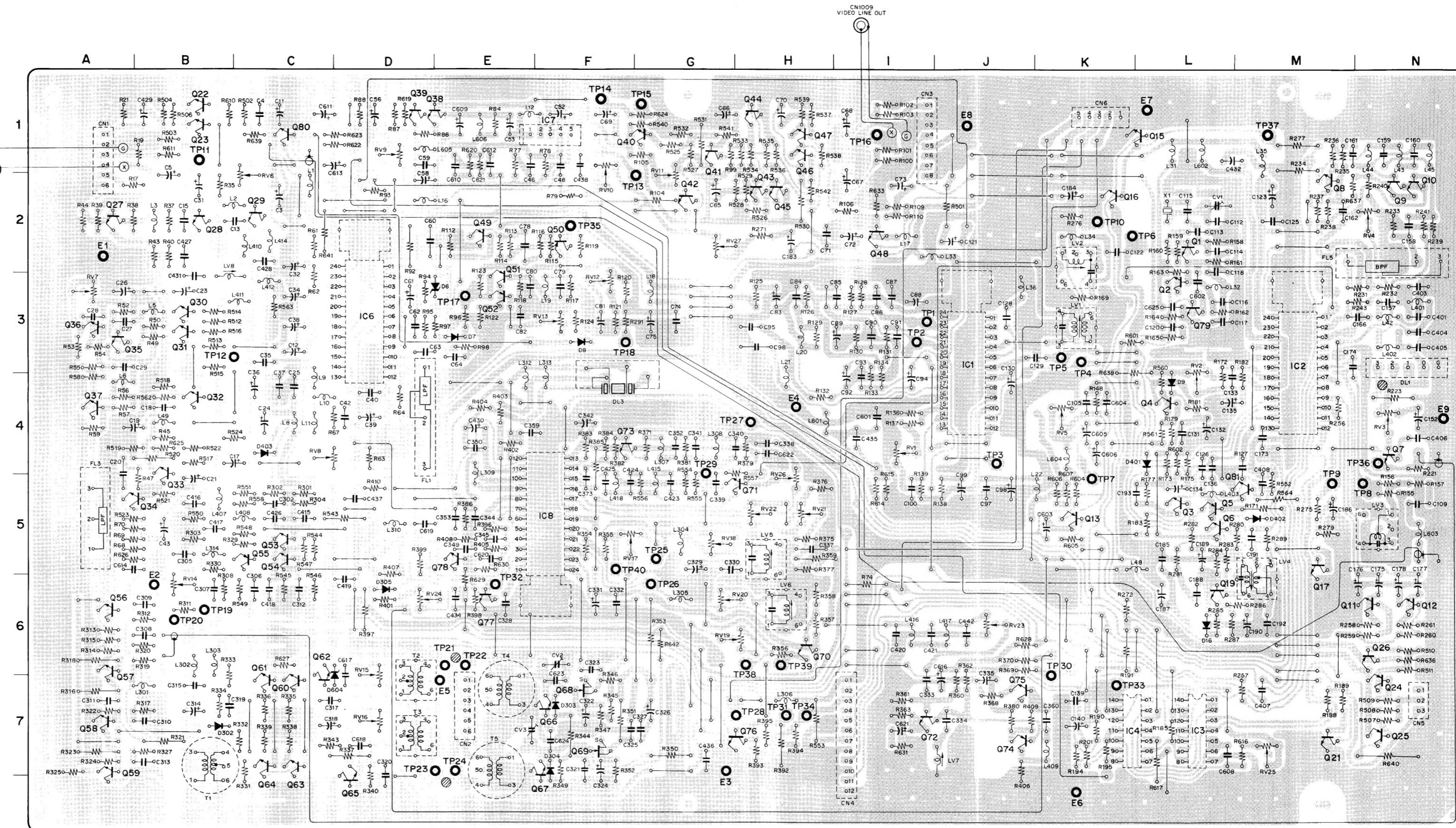
CN1	A - 1	Q1	L - 2	RV1	I - 4
CN2	E - 7	Q2	L - 3	RV2	L - 4
CN3	I - 1	Q3	L - 5	RV3	N - 4
CN4	I - 7	Q4	L - 4	RV4	N - 2
CN5	N - 7	Q5	L - 5	RV5	K - 4
CN6	K - 1	Q6	L - 5	RV6	C - 1
CV1	L - 2	Q7	N - 4	RV7	A - 3
CV2	F - 6	Q8	M - 1	RV8	C - 4
CV3	F - 7	Q9	N - 2	RV9	D - 1
D6	D - 3	Q10	N - 2	RV10	F - 1
D7	E - 3	Q11	N - 6	RV11	G - 1
D8	F - 3	Q12	N - 6	RV12	F - 3
D9	L - 4	Q13	K - 5	RV13	F - 3
D16	L - 6	Q14	M - 5	RV14	B - 6
D302	B - 7	Q15	L - 6	RV15	D - 6
D303	F - 7	Q16	K - 2	RV16	D - 7
D305	D - 6	Q17	M - 5	RV17	F - 5
D401	L - 4	Q18	B - 1	RV18	G - 5
D402	M - 5	Q19	B - 1	RV19	H - 6
D403	C - 4	Q20	B - 1	RV20	G - 6
D604	G - 7	Q21	N - 7	RV21	H - 5
E1	A - 2	Q22	B - 2	RV22	H - 5
E2	B - 6	Q23	C - 2	RV23	J - 6
E3	G - 7	Q24	C - 2	RV24	D - 6
E4	H - 4	Q25	B - 3	RV25	M - 7
E5	D - 7	Q26	B - 3	RV26	H - 5
E6	K - 7	Q27	A - 2	RV27	G - 2
E7	L - 1	Q28	C - 2		
IC1	J - 3	Q29	C - 2		
IC2	M - 3	Q30	B - 3		
IC3	L - 7	Q31	B - 3		
IC4	K - 7	Q32	B - 4	T1	B - 7
IC6	D - 3	Q33	B - 5	T2	D - 7
IC7	F - 1	Q34	A - 5	T3	D - 7
IC8	F - 5	Q35	A - 3	T4	E - 7
LV1	K - 3	Q36	A - 4	T5	E - 7
LV2	K - 2	Q37	A - 1	TP1	I - 3
LV3	N - 5	Q38	D - 1	TP2	I - 3
LV4	M - 5	Q39	D - 1	TP3	J - 4
LV5	H - 5	Q40	G - 1	TP4	K - 3
LV6	H - 6	Q41	G - 1	TP5	K - 3
LV7	J - 7	Q42	G - 2	TP6	L - 2
LV8	B - 3	Q43	H - 2	TP7	K - 5
Q44	H - 1	Q45	H - 2	TP8	N - 5
Q46	H - 1	Q47	H - 1	TP9	M - 5
Q48	I - 2	Q49	E - 2	TP10	K - 2
Q50	F - 2	Q51	E - 2	TP11	B - 1
Q52	E - 3	Q53	E - 1	TP12	B - 3
Q54	C - 5	Q55	I - 1	TP13	G - 1
Q56	A - 6	Q57	A - 6	TP14	F - 1
Q58	D - 7	Q59	A - 7	TP15	G - 1
Q60	C - 7	Q61	C - 7	TP16	I - 1
Q62	C - 7	Q63	C - 5	TP17	E - 3
Q64	C - 7	Q65	C - 5	TP18	F - 3
Q66	D - 7	Q67	E - 7	TP19	B - 6
Q68	F - 7	Q69	F - 7	TP20	B - 6
Q70	H - 6	Q71	H - 5	TP21	E - 6
Q72	I - 7	Q73	F - 4	TP22	H - 7
Q74	J - 7	Q75	M - 1	TP23	G - 4
Q76	H - 7	Q77	E - 6	TP24	H - 6
Q78	E - 5	Q79	L - 3	TP25	F - 5
Q80	C - 1	X1	L - 2	TP26	



## **VO-9 (VIDEO MOD/DEMODULATOR)**

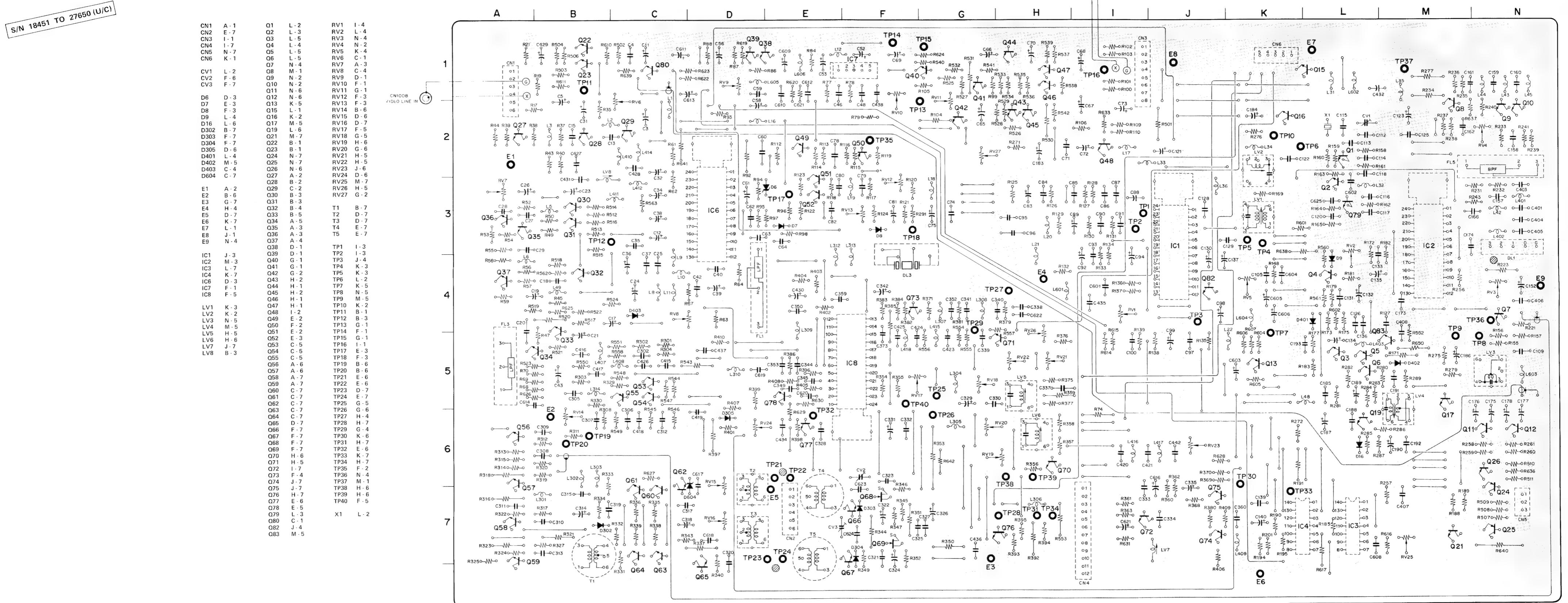
12051 TO 18450 (U/C)

N1	A - 1	Q1	L - 2	RV1	I - 4
N2	E - 7	Q2	L - 3	RV2	L - 4
N3	I - 1	Q3	L - 5	RV3	N - 4
N4	I - 7	Q4	L - 4	RV4	N - 2
N5	N - 7	Q5	L - 5	RV5	K - 4
N6	K - 1	Q6	L - 5	RV6	C - 1
		Q7	N - 4	RV7	A - 3
V1	L - 2	Q8	M - 1	RV8	C - 4
V2	F - 6	Q9	N - 2	RV9	D - 1
V3	F - 7	Q10	N - 2	RV10	F - 1
		Q11	N - 6	RV11	G - 1
6	D - 3	Q12	N - 6	RV12	F - 3
7	E - 3	Q13	K - 5	RV13	F - 3
8	F - 3	Q15	L - 1	RV14	B - 6
9	L - 4	Q16	K - 2	RV15	D - 6
16	L - 6	Q17	M - 5	RV16	D - 7
302	B - 7	Q19	L - 6	RV17	F - 5
303	F - 7	Q21	M - 7	RV18	G - 5
304	F - 7	Q22	B - 1	RV19	H - 6
305	D - 6	Q23	B - 1	RV20	G - 6
401	L - 4	Q24	N - 7	RV21	H - 5
402	M - 5	Q25	N - 7	RV22	H - 5
403	C - 4	Q26	N - 6	RV23	J - 6
604	C - 7	Q27	A - 2	RV24	D - 6
		Q28	B - 2	RV25	M - 7
1	A - 2	Q29	C - 2	RV26	H - 5
2	B - 6	Q30	B - 3	RV27	G - 2
3	G - 7	Q31	B - 3		
4	H - 4	Q32	B - 4	T1	B - 7
5	D - 7	Q33	B - 5	T2	D - 7
6	K - 7	Q34	A - 5	T3	D - 7
7	L - 1	Q35	A - 3	T4	E - 7
8	J - 1	Q36	A - 3	T5	E - 7
9	N - 4	Q37	A - 4		
		Q38	D - 1	TP1	I - 3
C1	J - 3	Q39	D - 1	TP2	I - 3
C2	M - 3	Q40	G - 1	TP3	J - 4
C3	L - 7	Q41	G - 1	TP4	K - 3
C4	K - 7	Q42	G - 2	TP5	K - 3
C6	D - 3	Q43	H - 2	TP6	L - 2
C7	F - 1	Q44	H - 1	TP7	K - 5
C8	F - 5	Q45	H - 2	TP8	N - 5
		Q46	H - 1	TP9	M - 5
V1	K - 3	Q47	H - 1	TP10	K - 2
V2	K - 2	Q48	I - 2	TP11	B - 1
V3	N - 5	Q49	E - 2	TP12	B - 3
V4	M - 5	Q50	F - 2	TP13	G - 1
V5	H - 5	Q51	E - 2	TP14	F - 1
V6	H - 6	Q52	E - 3	TP15	G - 1
V7	J - 7	Q53	C - 5	TP16	I - 1
V8	B - 3	Q54	C - 5	TP17	E - 3
		Q55	C - 5	TP18	F - 3
		Q56	A - 6	TP19	B - 6
		Q57	A - 6	TP20	B - 6
		Q58	A - 7	TP21	E - 6
		Q59	A - 7	TP22	E - 6
		Q60	C - 7	TP23	D - 7
		Q61	C - 7	TP24	E - 7
		Q62	C - 7	TP25	G - 5
		Q63	C - 7	TP26	G - 6
		Q64	C - 7	TP27	H - 4
		Q65	D - 7	TP28	H - 7
		Q66	F - 7	TP29	G - 4
		Q67	F - 7	TP30	K - 6
		Q68	F - 7	TP31	H - 7
		Q69	F - 7	TP32	E - 6
		Q70	H - 6	TP33	K - 7
		Q71	H - 5	TP34	H - 7
		Q72	I - 7	TP35	F - 2
		Q73	F - 4	TP36	N - 4
		Q74	J - 7	TP37	M - 1
		Q75	J - 7	TP38	H - 6
		Q76	H - 7	TP39	H - 6
		Q77	E - 6	TP40	F - 5
		Q78	E - 5		
		Q79	L - 3	X1	L - 2
		Q80	C - 1		
		Q81	M - 5		



**O-9** SOLDERING SIDE

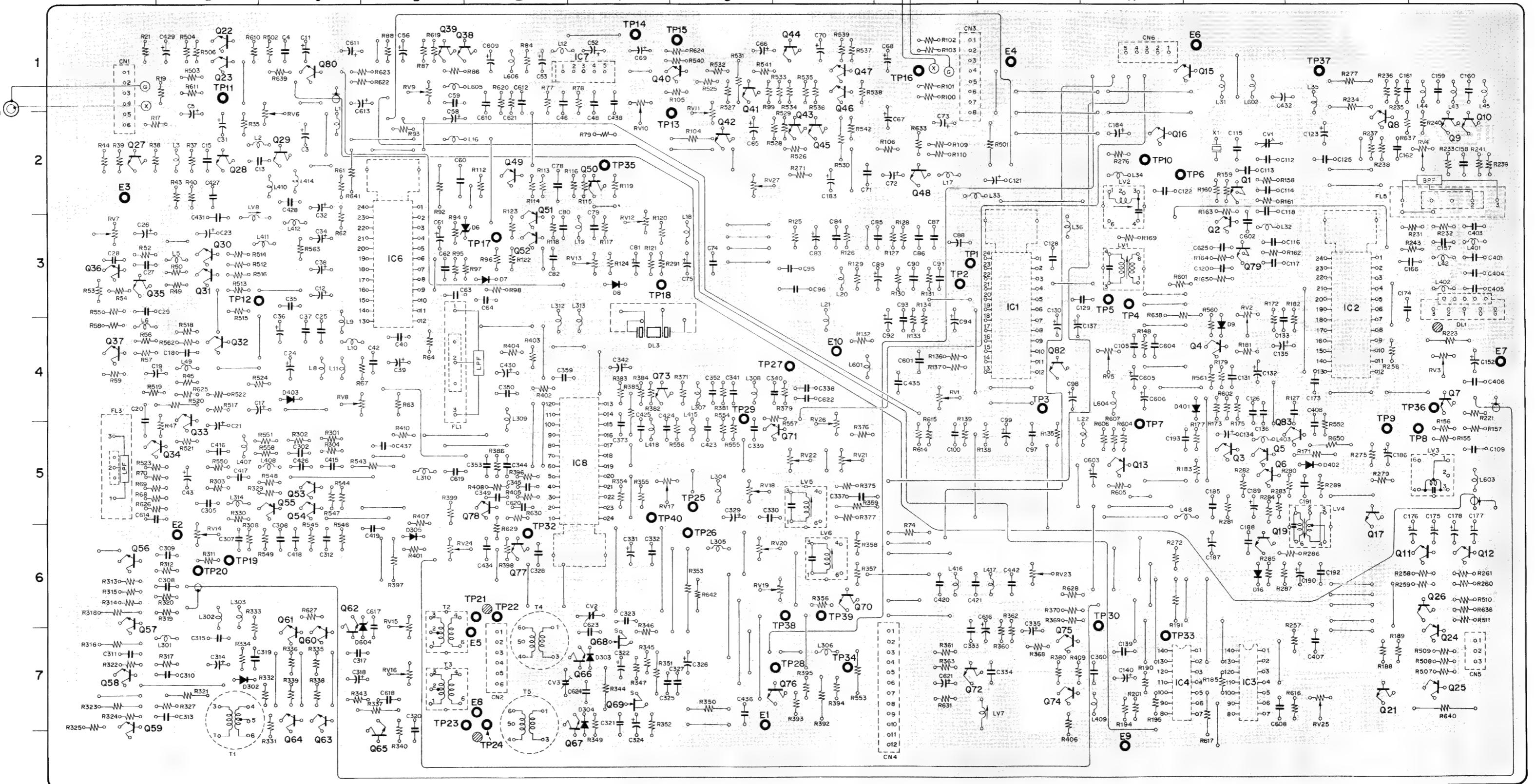
VO-9  
(VIDEO MOD/DEMODULATOR)

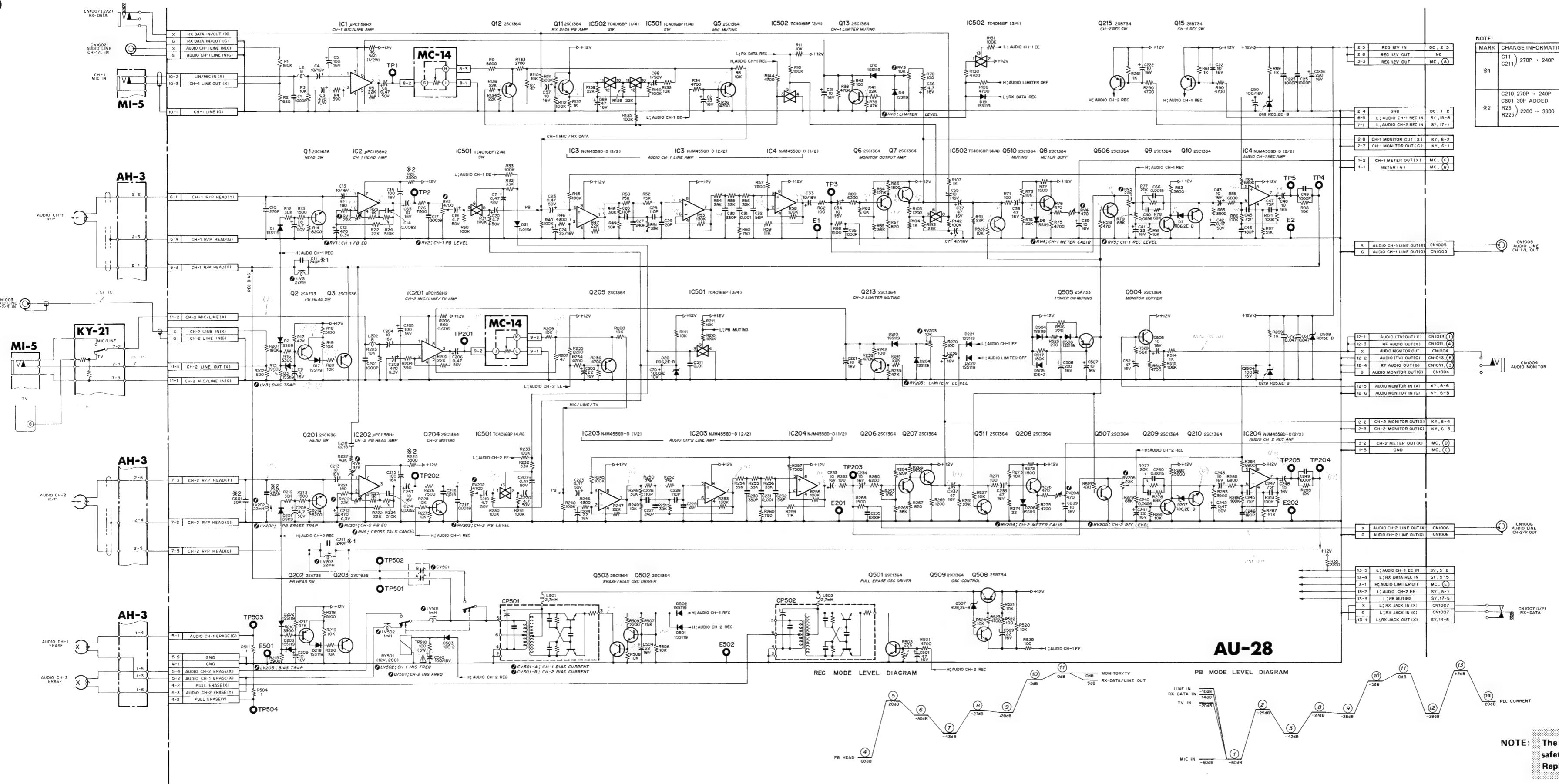


## VO-9 (VIDEO MOD/DEMODULATOR)

S/N 27651 AND LATER

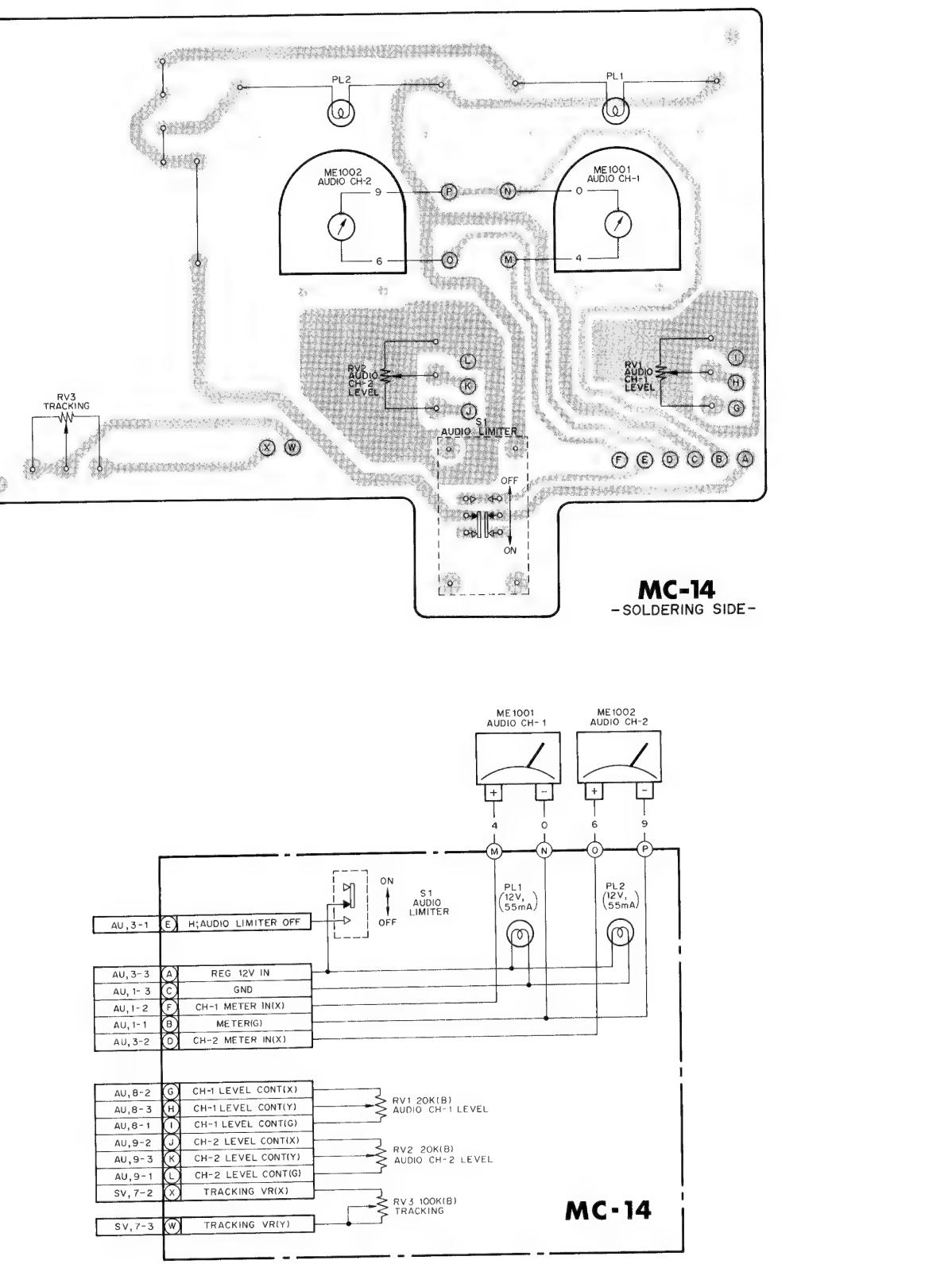
CN1	A - 1	Q1	L - 2	RV1	I - 4
CN2	E - 7	Q2	L - 3	RV2	L - 4
CN3	I - 1	Q3	L - 5	RV3	N - 4
CN4	I - 7	Q4	L - 4	RV4	N - 2
CN5	N - 7	Q5	L - 5	RV5	K - 4
CN6	K - 1	Q6	L - 5	RV6	C - 1
CV1	L - 2	Q8	M - 1	RV8	C - 4
CV2	F - 6	Q9	N - 2	RV9	D - 1
CV3	F - 7	Q10	N - 6	RV10	F - 1
D6	D - 3	Q12	N - 6	RV11	G - 1
D7	E - 3	Q13	K - 5	RV12	F - 3
D8	F - 3	Q15	L - 1	RV13	F - 3
D9	L - 4	Q16	K - 2	RV14	B - 6
D16	L - 6	Q17	M - 5	RV15	D - 6
D302	B - 7	Q19	L - 6	RV16	D - 7
D303	F - 7	Q21	M - 7	RV17	F - 5
D304	F - 7	Q22	B - 1	RV18	G - 5
D401	D - 6	Q23	B - 1	RV19	H - 6
D402	M - 5	Q24	N - 7	RV20	G - 6
D403	C - 4	Q25	N - 6	RV21	H - 5
D604	C - 7	Q27	A - 2	RV22	H - 5
E1	G - 7	Q28	B - 2	RV23	J - 6
E2	B - 6	Q29	C - 2	RV24	D - 6
E3	A - 2	Q30	B - 3	RV25	M - 7
E4	J - 1	Q32	B - 4	T1	B - 7
E5	D - 7	Q33	B - 5	TP1	I - 3
E6	L - 1	Q34	A - 5	TP2	I - 3
E7	N - 4	Q35	A - 3	TP3	J - 4
E8	E - 7	Q36	A - 3	TP4	K - 3
E9	K - 7	Q37	A - 4	TP5	G - 1
E10	H - 4	Q38	D - 1	TP6	G - 1
IC1	J - 3	Q40	G - 1	TP7	K - 5
IC2	M - 3	Q41	G - 1	TP8	N - 5
IC3	L - 7	Q42	G - 2	TP9	M - 5
IC4	K - 7	Q43	H - 2	TP10	K - 2
IC6	D - 3	Q44	H - 1	TP11	B - 1
IC7	F - 1	Q45	H - 1	TP12	B - 3
IC8	F - 5	Q46	H - 1	TP13	G - 1
LV1	K - 3	Q48	I - 2	TP14	F - 1
LV2	K - 2	Q49	E - 2	TP15	F - 2
LV3	N - 5	Q50	F - 2	TP16	L - 2
LV4	M - 5	Q51	E - 2	TP17	L - 2
LV5	H - 5	Q52	E - 3	TP18	E - 3
LV6	H - 6	Q53	C - 5	TP19	F - 3
LV7	J - 7	Q54	C - 5	TP20	B - 6
LV8	B - 3	Q55	C - 5	TP21	B - 6
M56	A - 6	Q56	A - 6	TP22	E - 6
M57	A - 6	Q57	A - 7	TP23	D - 7
M59	A - 7	Q58	A - 7	TP24	E - 7
M60	C - 7	Q59	C - 7	TP25	G - 5
M61	C - 7	Q60	C - 7	TP26	G - 6
M63	C - 7	Q61	H - 4	TP27	H - 4
M64	C - 7	Q62	H - 7	TP28	G - 4
M65	D - 7	Q63	H - 7	TP29	H - 6
M66	F - 7	Q64	F - 7	TP30	K - 6
M67	F - 7	Q65	F - 7	TP31	K - 7
M68	F - 7	Q66	E - 6	TP32	H - 6
M69	F - 7	Q67	F - 7	TP33	H - 7
M70	H - 6	Q68	H - 6	TP34	H - 7
M71	H - 5	Q69	F - 2	TP35	F - 2
M72	I - 7	Q70	I - 7	TP36	N - 4
M73	F - 4	Q71	M - 1	TP37	M - 1
M74	J - 7	Q72	H - 6	TP38	H - 6
M75	J - 7	Q73	H - 6	TP39	H - 6
M76	H - 7	Q74	H - 7	TP40	F - 5
M77	E - 6	X1	L - 2		
Q78	E - 5				
Q79	L - 3				
Q80	C - 1				
Q82	J - 4				
Q83	M - 5				

VO-9 SOLDERING SIDE  
1-606-374-18  
VO-5600

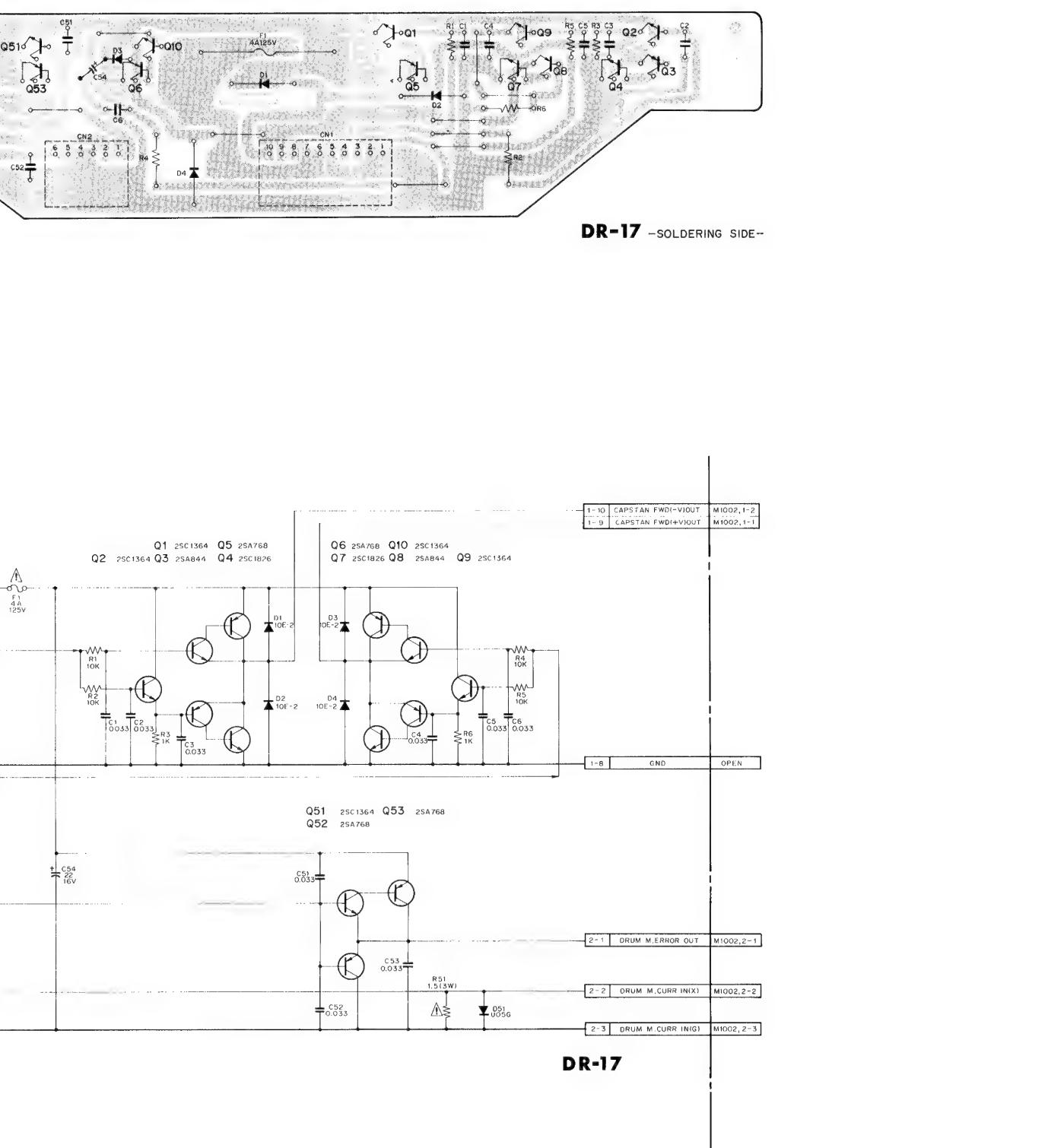
AU-28  
(AUDIO REC/PB)

MARK	CHANGE INFORMATION	SERIAL NO.
*1	C11 → C21 270P → 240P	VO 5600 U/C: 18601~ J: 18601~ VO 5630 AEP: 13441~ " UK: 10511~ " U/C: 10201~
*2	C210 270P → 240P C001 30P ADDED R25 2200 → 3300	VO 5600 U/C: 18451~ J: 10701~ VO 5630 AEP: 16541~ " UK: 11511~ " U/C: 10201~

MC-14 (METER/TRACKING VR)

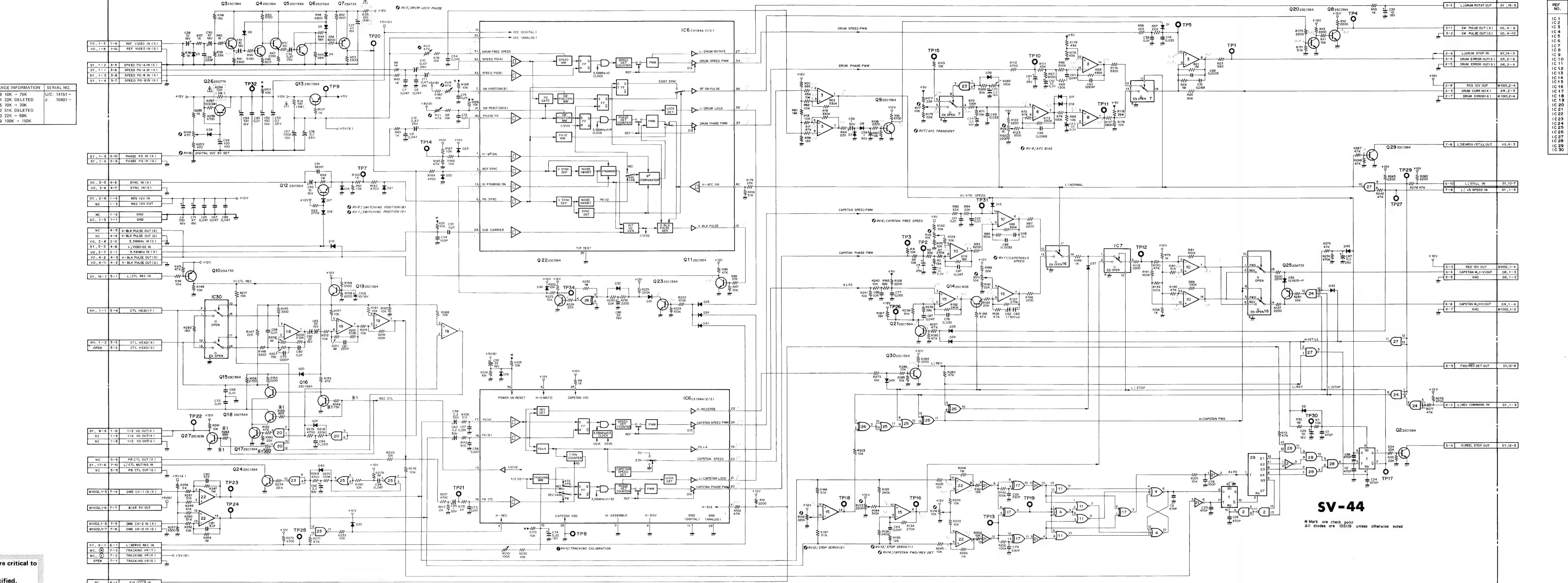


DR-17 (DRUM/CAPSTAN DRIVER)



**NOTE** The shaded and marked components are critical to safety.  
Replace only with same components as specified.

## SV-44 (SERVO SYSTEM)



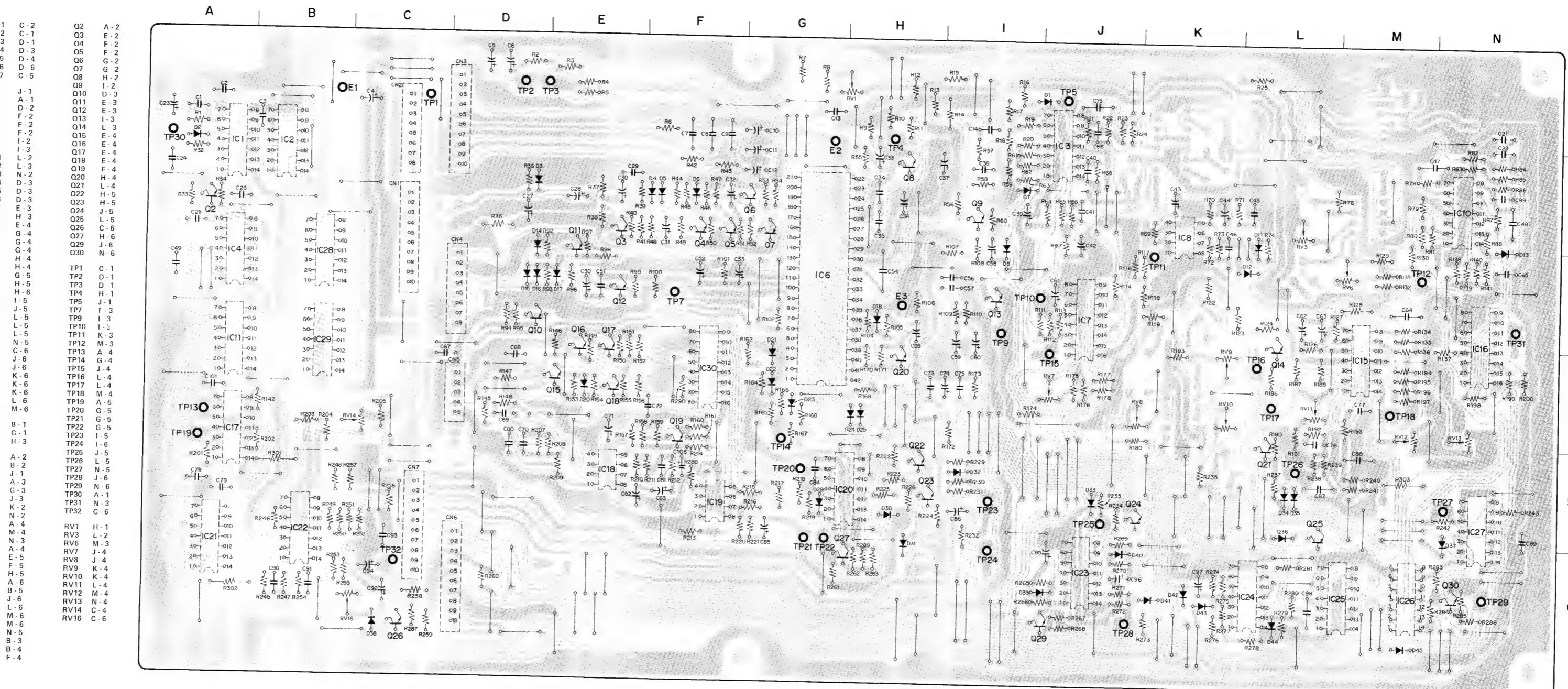
**NOTE:**  
The shaded and -marked components are critical to safety.  
Replace only with same components as specified.

REF. NO.	TYPE	12V PIN	GND PIN
IC 1	$\mu$ PC324C	14	7
IC 2	TC4011BP	14	11
IC 3	TC4025P	14	7
IC 4	IC 5	16	8
IC 6	TC4053P	8	4
IC 7	$\mu$ PC358C	8	4
IC 8	TC4019BP	14	11
IC 9	IC 10	16	8
IC 11	$\mu$ PC324C	4	11
IC 12	TC4019BP	14	7
IC 13	IC 14	16	11
IC 15	$\mu$ PC324C	4	8
IC 16	TC4030BP	14	7
IC 17	NM4558D-D	8	4
IC 18	NM4558D	4	7
IC 19	TC4018BP	14	7
IC 20	MC14584BCP	14	7
IC 21	$\mu$ PC324C	4	11
IC 22	TC4019BP	14	7
IC 23	TC4023P	14	7
IC 24	TC4001BP	14	7
IC 25	TC4019P	14	7
IC 26	TC4011P	14	7
IC 27	TC4019P	14	7
IC 28	TC4081BP	14	7
IC 29	TC4024P	14	7
IC 30	TC4033BP	16	8

SV-44

\* Mark are check point  
All diodes are ISS119 unless otherwise noted

UP TO 12050 (U/C)

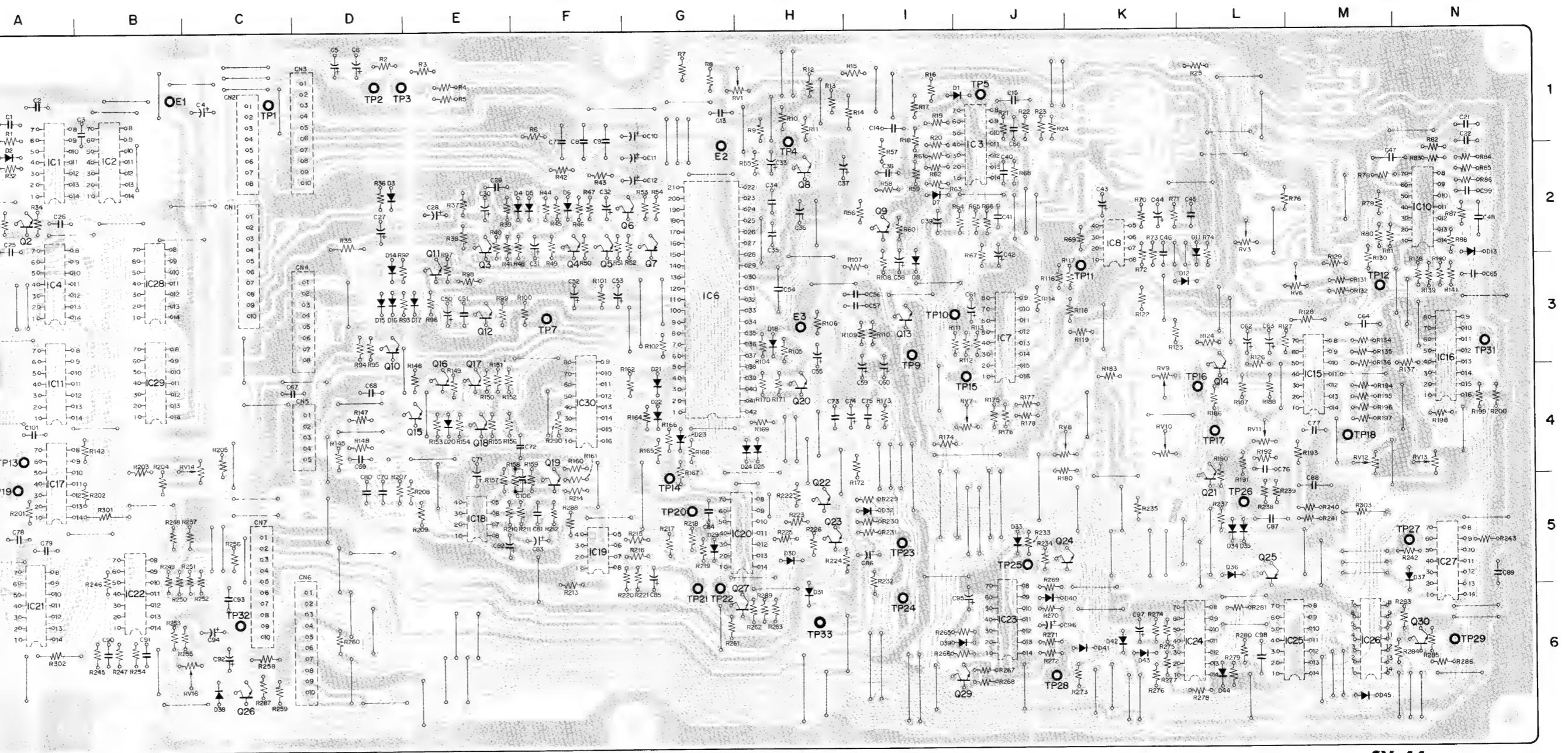


SV-44 - SOLDERING SIDE-

## SV-44 (SERVO SYSTEM)

12051 TO 13050 (U/C)

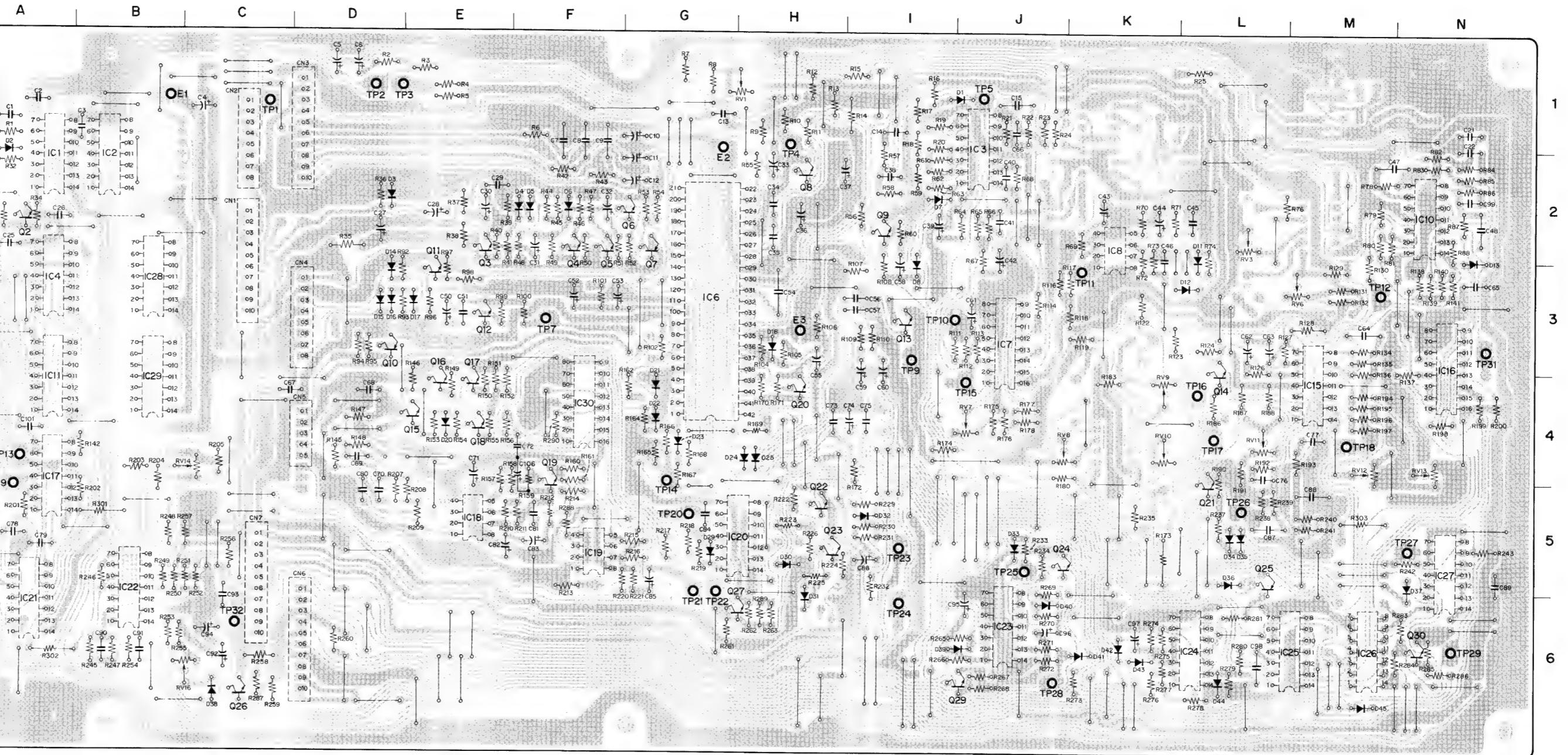
CN1	C - 2
CN2	C - 1
CN3	D - 1
CN4	D - 3
CN5	F - 2
CN6	D - 4
CN7	C - 5
D1	J - 1
D2	A - 1
D3	D - 2
D4	F - 2
D5	F - 2
D6	F - 2
D7	I - 2
D8	I - 3
D9	E - 4
D10	D - 3
D11	E - 3
D12	L - 3
D13	N - 2
D14	D - 3
D15	D - 3
D16	D - 3
D17	E - 3
D18	H - 3
D19	E - 4
D20	C - 6
D21	G - 4
D22	G - 4
D23	G - 4
D24	H - 4
D25	H - 4
D26	G - 5
D27	TP1
D28	C - 1
D29	TP2
D30	D - 1
D31	H - 6
D32	I - 5
D33	J - 5
D34	L - 5
D35	L - 5
D36	L - 5
D37	T12
D38	M - 3
D39	T13
D40	J - 6
D41	J - 6
D42	K - 6
D43	K - 6
D44	L - 6
D45	M - 6
E1	B - 1
E2	G - 1
E3	H - 3
IC1	A - 2
IC2	B - 2
IC3	J - 1
IC4	A - 3
IC5	G - 3
IC6	A - 1
IC7	J - 3
IC8	K - 2
IC9	N - 2
IC10	A - 4
IC11	M - 4
IC12	N - 3
IC13	K - 4
IC14	L - 2
IC15	M - 3
IC16	M - 3
IC17	A - 4
IC18	E - 5
IC19	F - 5
IC20	H - 5
IC21	A - 6
IC22	B - 5
IC23	J - 6
IC24	L - 6
IC25	M - 6
IC26	M - 6
IC27	N - 5
IC28	B - 3
IC29	B - 4
IC30	F - 4
RV1	H - 1
RV2	L - 2
RV3	M - 3
RV4	J - 4
RV5	J - 4
RV6	K - 4
RV7	K - 4
RV8	J - 4
RV9	K - 4
RV10	K - 4
RV11	L - 4
RV12	M - 4
RV13	N - 4
RV14	C - 4
RV15	C - 6
RV16	C - 6



## **SV-44 (SERVO SYSTEM)**

13051 TO 15650 (U/C)

C - 2	Q2
C - 1	Q3
D - 1	Q4
D - 3	Q5
D - 4	Q6
D - 6	Q7
C - 5	Q8
	Q9
J - 1	Q10
A - 1	Q11
D - 2	Q12
F - 2	Q13
F - 2	Q14
F - 2	Q15
I - 2	Q16
I - 3	Q17
L - 2	Q18
L - 3	Q19
N - 2	Q20
D - 3	Q21
D - 3	Q22
D - 3	Q23
E - 3	Q24
H - 3	Q25
E - 4	Q26
G - 4	Q27
G - 4	Q29
G - 4	Q30
H - 4	
G - 5	TP1
H - 5	TP2
H - 6	TP3
I - 5	TP4
J - 5	TP5
L - 5	TP7
L - 5	TP9
L - 5	TP10
L - 5	TP11
N - 5	TP12
C - 6	TP13
J - 6	TP14
J - 6	TP15
K - 6	TP16
K - 6	TP17
K - 6	TP18
L - 6	TP19
M - 6	TP20
	TP21
B - 1	TP22
G - 1	TP23
H - 3	TP24
	TP25
A - 2	TP26
B - 2	TP27
J - 1	TP28
A - 3	TP29
G - 3	TP30
J - 3	TP31
K - 2	TP32
N - 2	
A - 4	RV1
M - 4	RV3
N - 3	RV6
A - 4	RV7
E - 5	RV8
F - 5	RV9
H - 5	RV10
A - 6	RV11
B - 5	RV12
J - 6	RV13
L - 6	RV14
M - 6	RV16
M - 6	
N - 5	
B - 3	
B - 4	
F - 4	



**44** - SOLDERING SIDE -

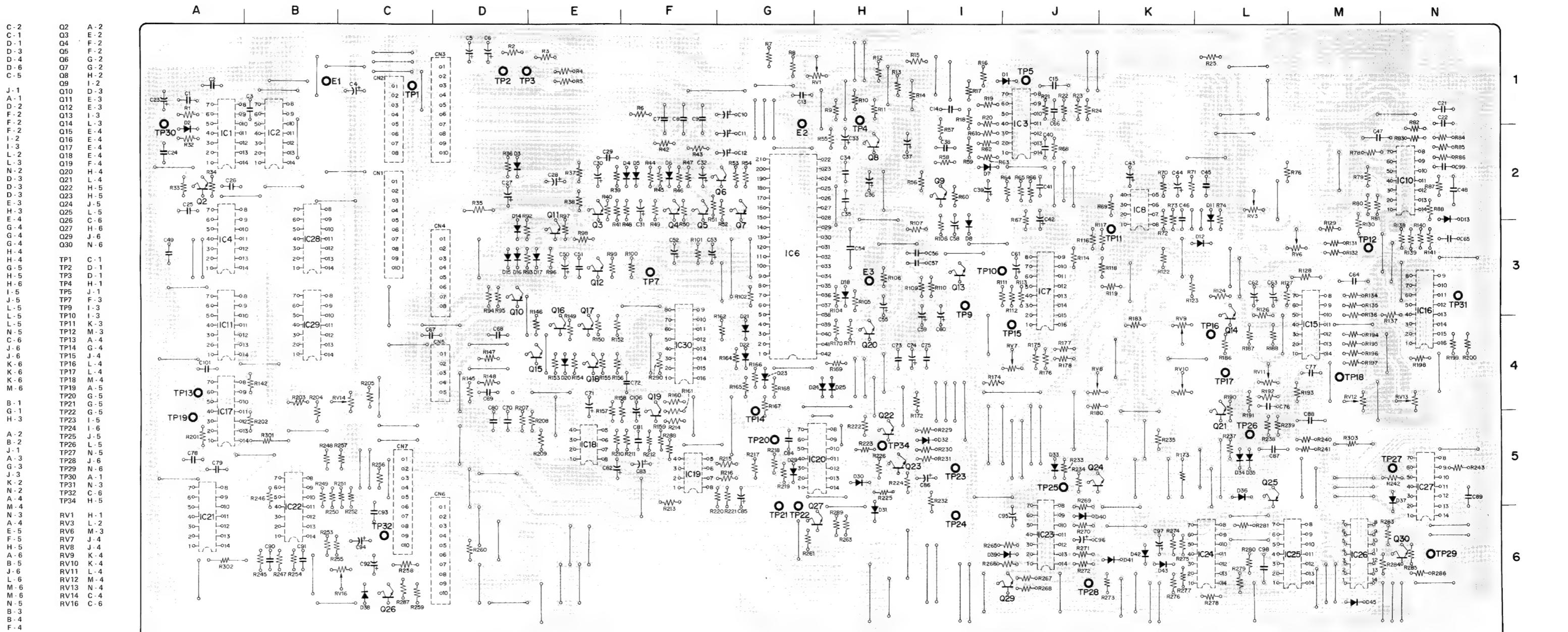
(a)

-50 (a)

4-51 (a)

## SV-44 (SERVO SYSTEM)

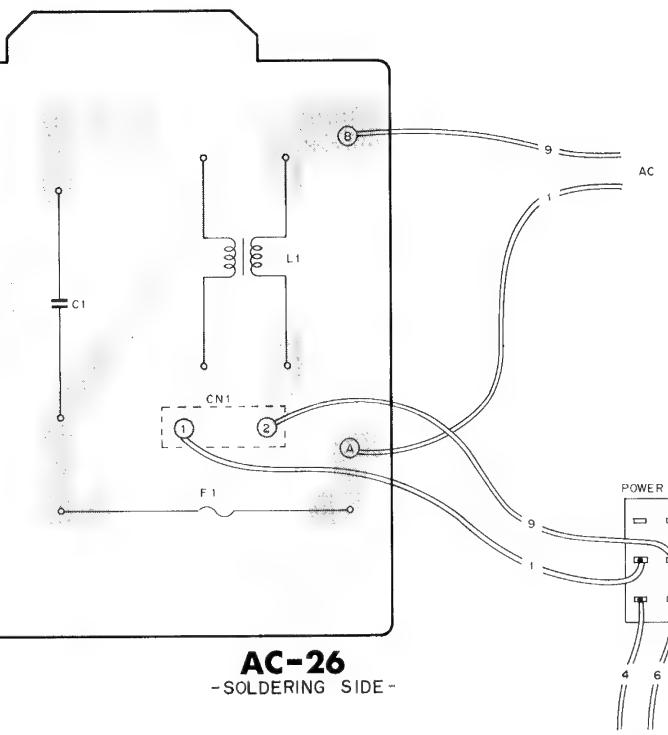
S/N 15651 AND LATER (U/C)



**SV-44** - SOLDERING SIDE -  
1-606-373-16,17,18,19  
VO-5600

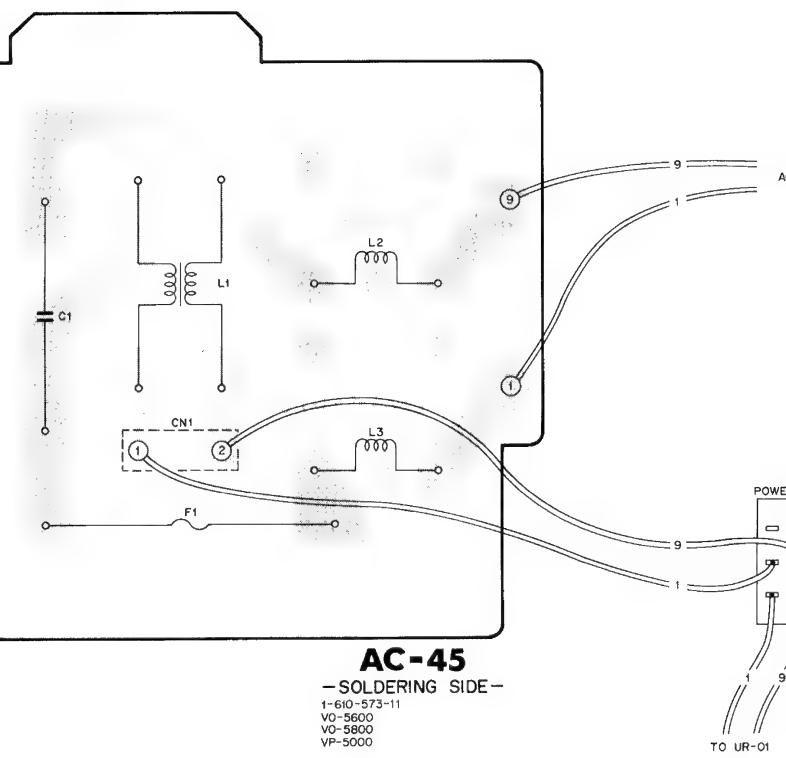
AC-26 (AC INPUT)

S/N UP TO 23850 (U/C)



AC-45 (AC INPUT)

S/N 23851 AND LATER (U/C)

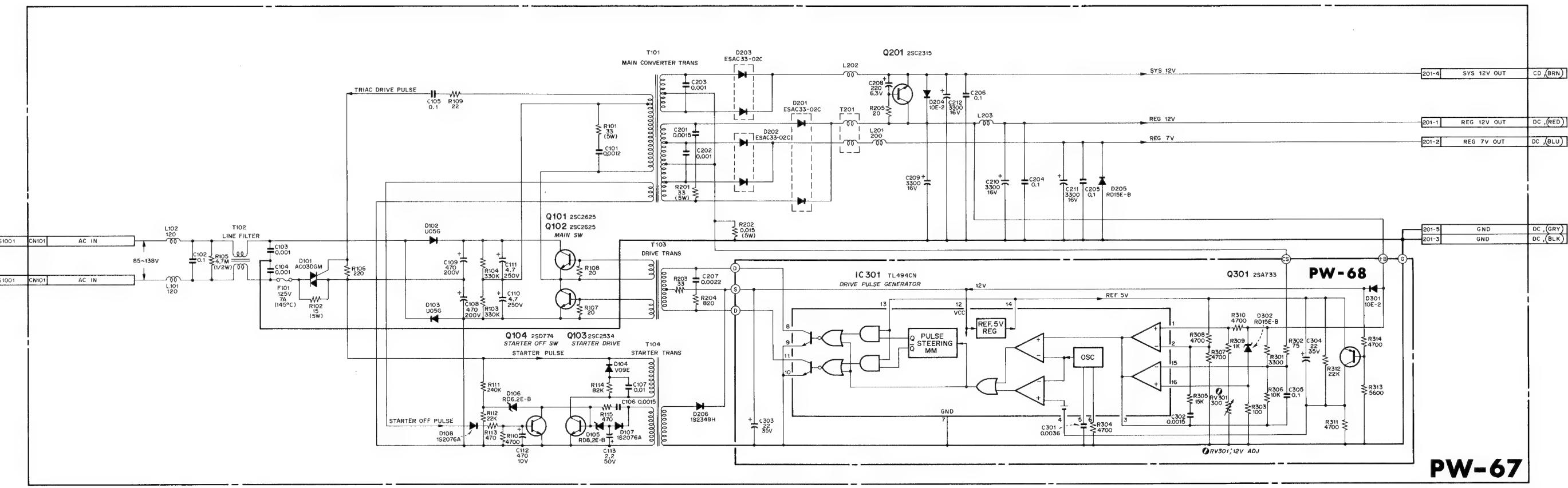


UR-01 (SWITCHING REGULATOR)

(PW-67)  
(PW-68)

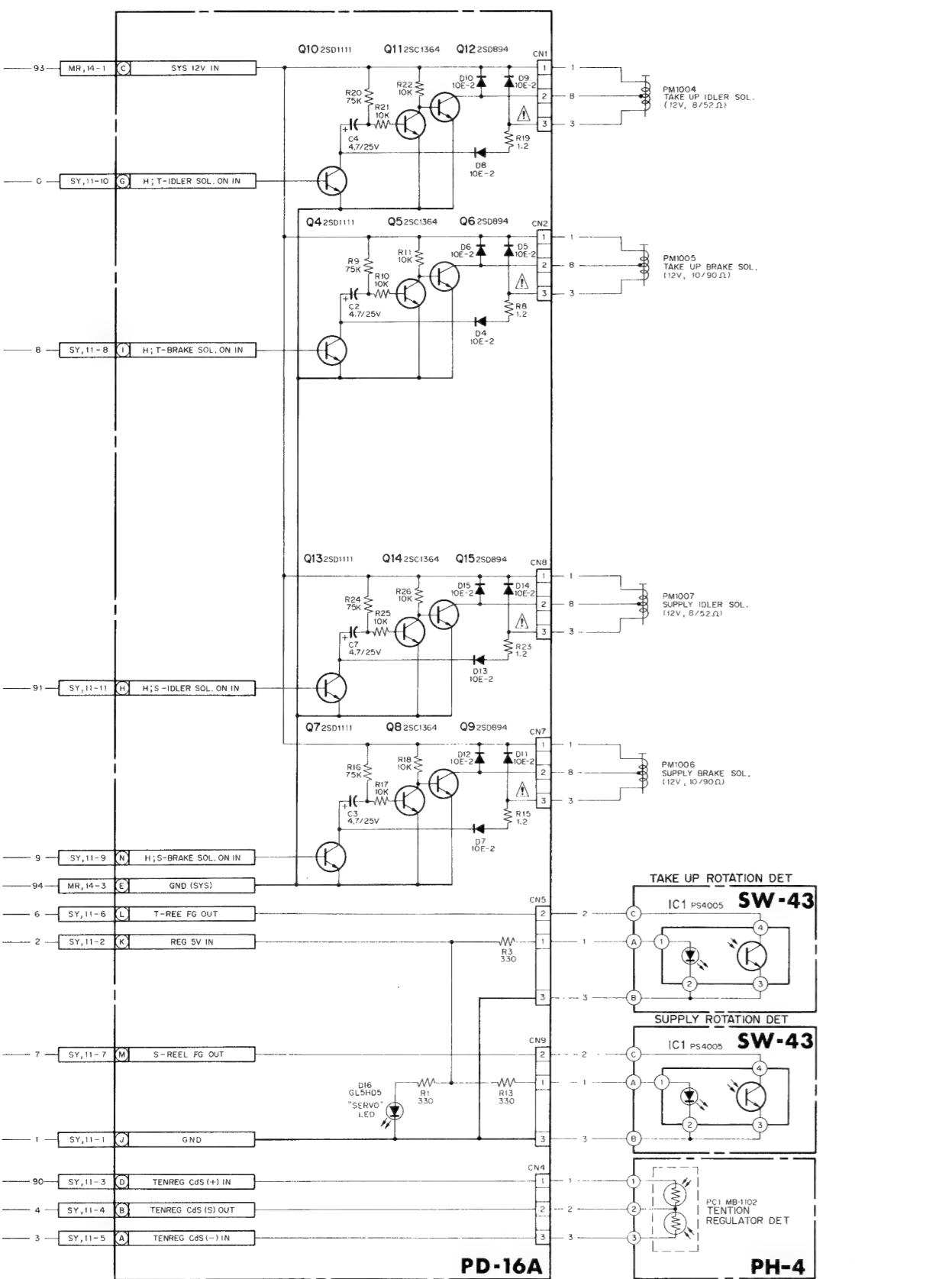
NOTE:

MARK	CHANGE INFORMATION	SERIAL NO.
*1	R106 100 → 220 R109 33 → 22 " J: 11201 ~ VP-5000 U/C: 24851 ~ " J: 11201 ~	VO-5600 U/C: 23851 ~ " J: 11201 ~ VP-5000 U/C: 24851 ~ " J: 11201 ~

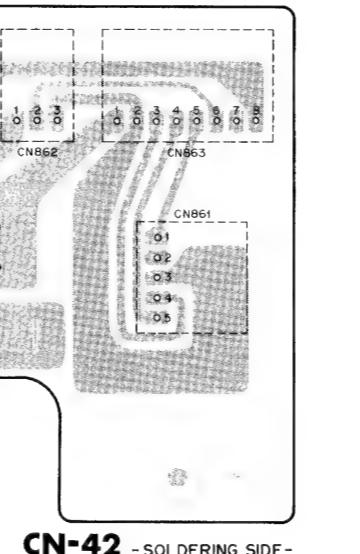
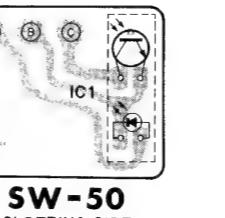


NOTE: The shaded and -marked components are critical to safety.  
Replace only with same components as specified.

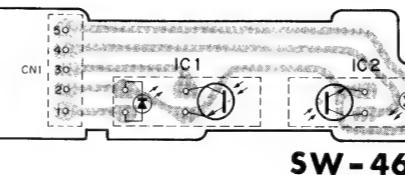
## PD-16 (SOLENOID DRIVER / TAPE RUN DET)

SW-43  
PH-4

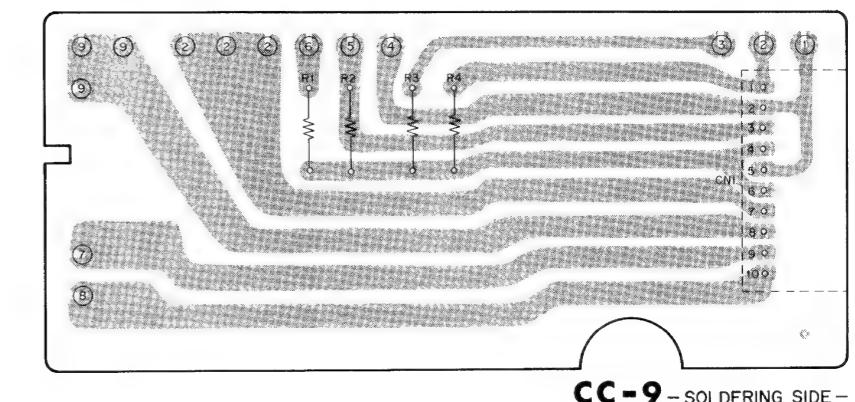
**NOTE** The shaded and -marked components are critical to safety.  
Replace only with same components as specified.

CN-42  
PH-5  
SW-50  
SW-46PH-5  
—SOLDERING SIDE—CN-42  
—SOLDERING SIDE—CC-9  
CC-10  
CC-11

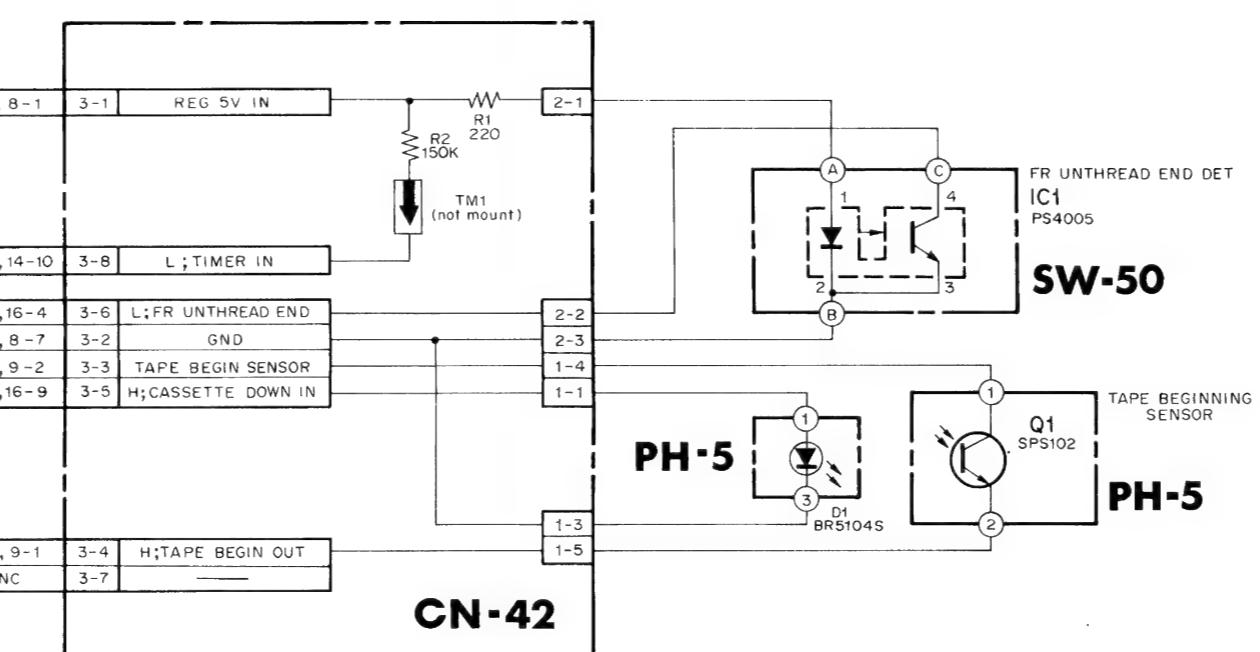
CC-11 —SOLDERING SIDE—



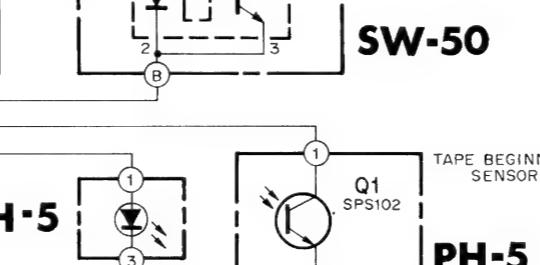
CC-10 —SOLDERING SIDE—



CC-9 —SOLDERING SIDE—



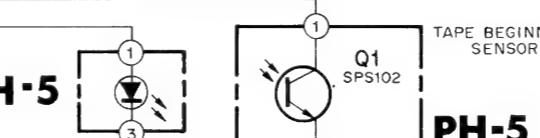
CN-42



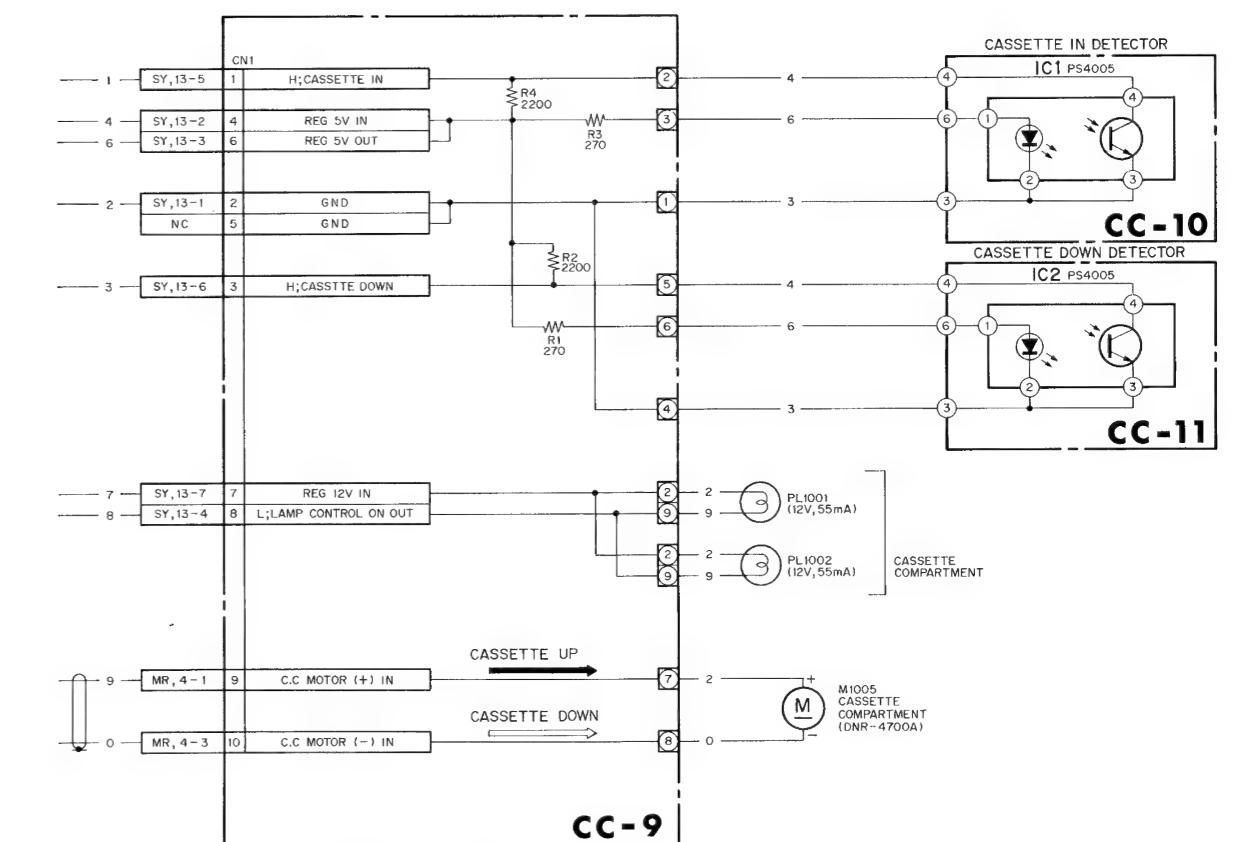
PH-5



PH-5



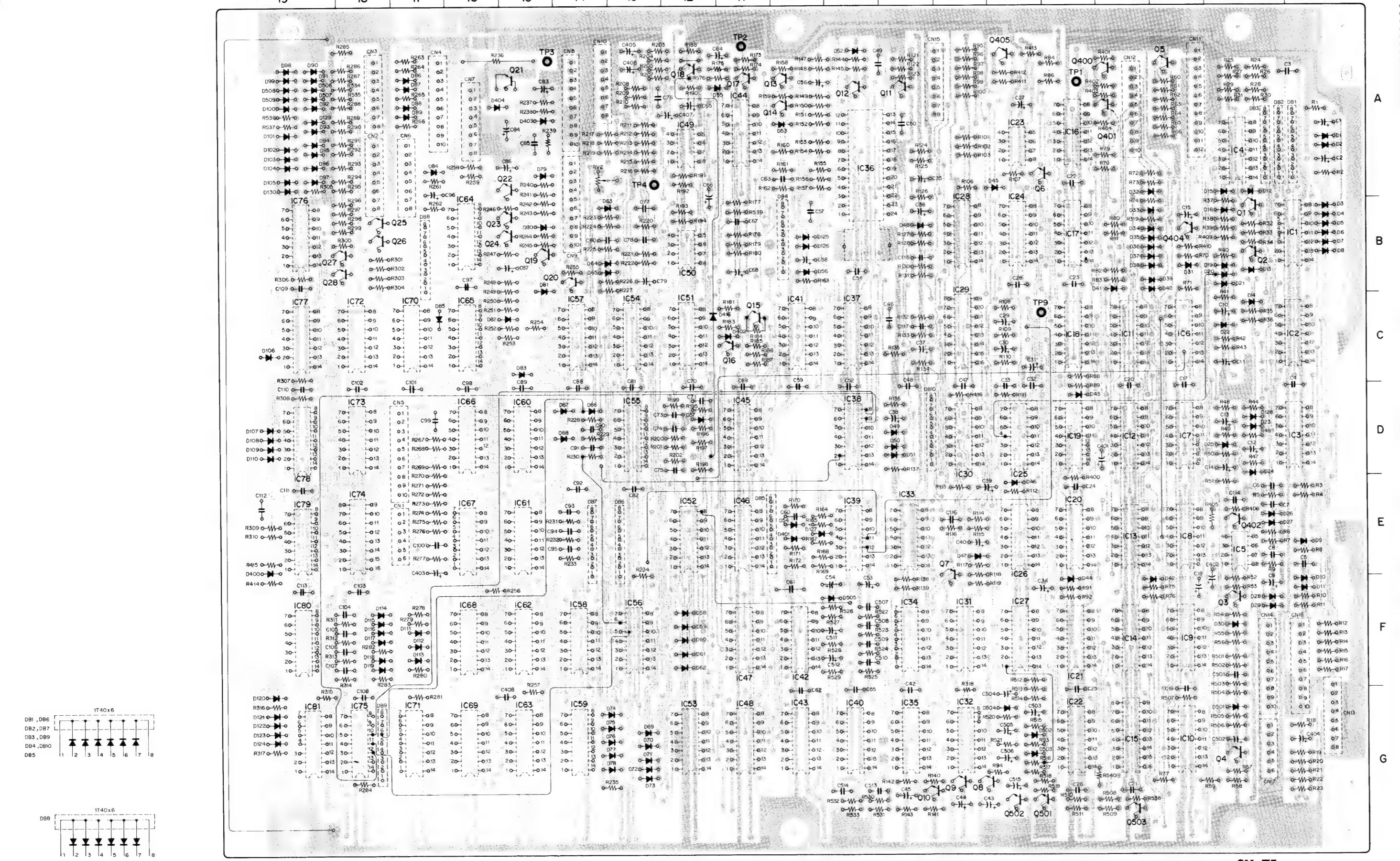
PH-5



CC-9

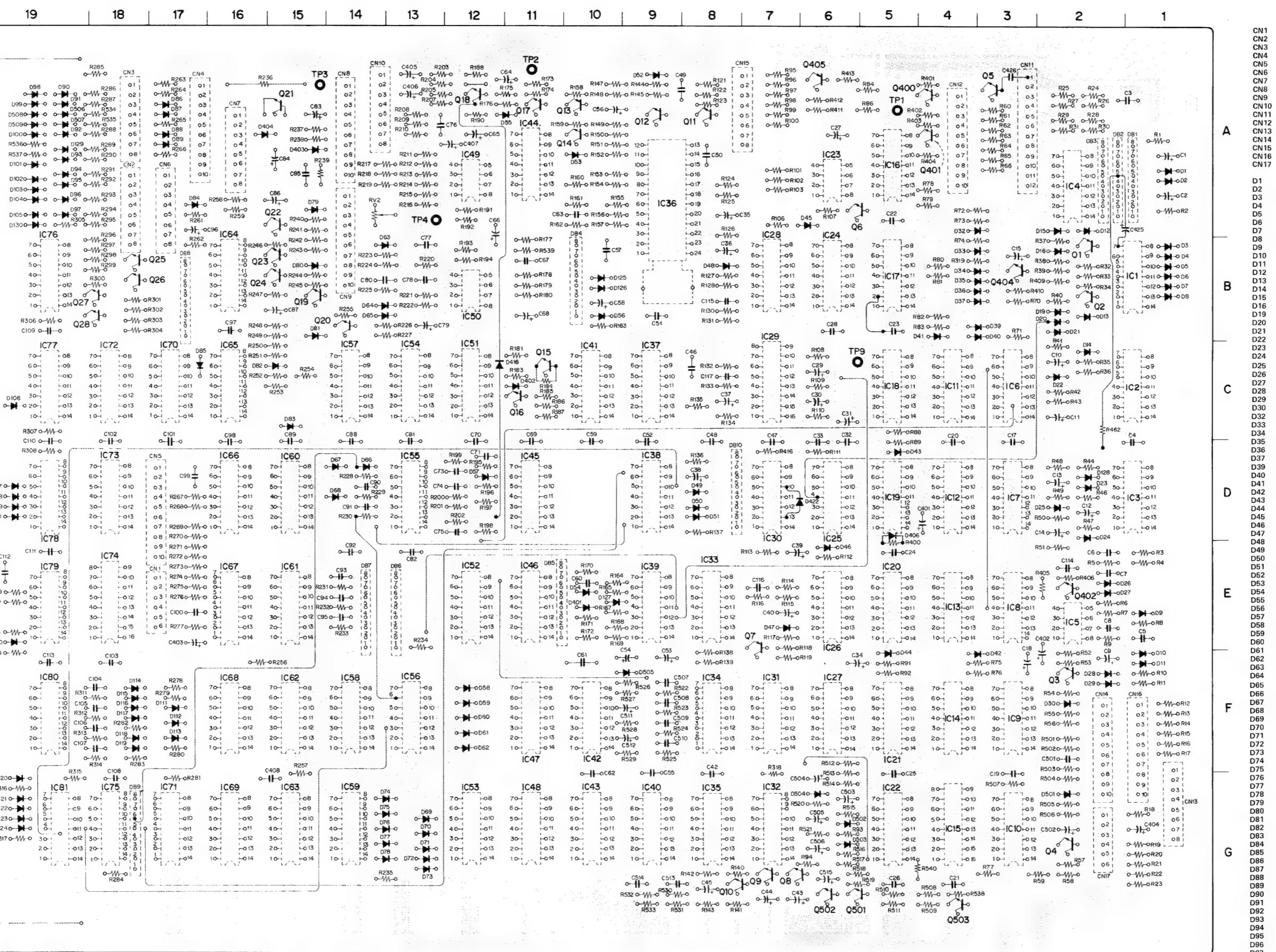
## SY-75 (SYSTEM CONTROL)

UP TO 10950 (U/C)



## **SY-75 (SYSTEM CONTROL)**

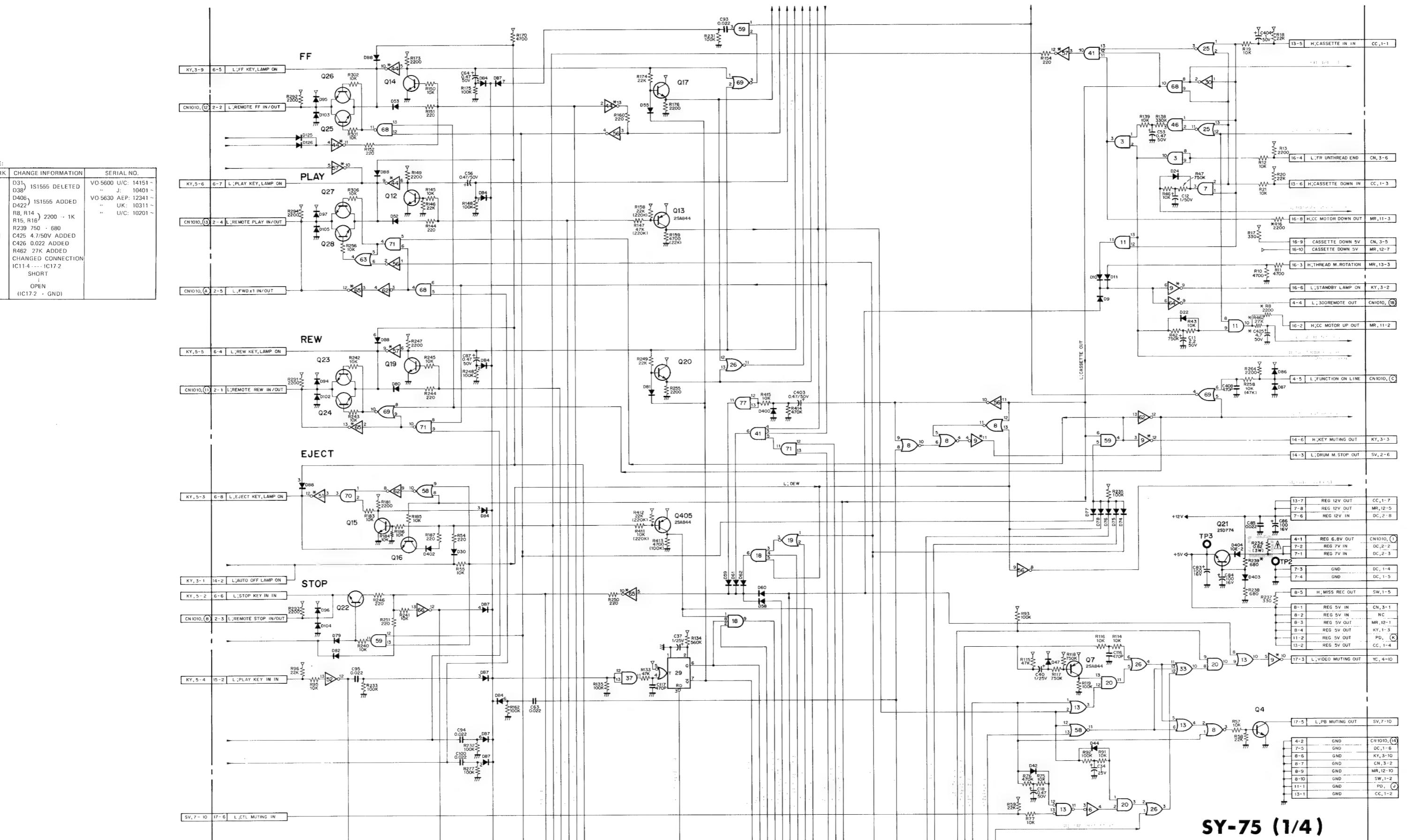
S/N 10951 TO 18450 (U/C)



D98	A - 19	IC62	F - 15	REF. NO.	TYPE.	12V PIN	5V PIN	GND PIN
D99	A - 19	IC63	G - 15	IC1	TC4081BP	14	7	
D100	A - 19	IC64	B - 16	IC2	TC4001BP	14	7	
D101	A - 19	IC65	C - 16	IC3	TC4081BP	14	7	
D102	A - 19	IC66	D - 16	IC4	M54529P	14	7	
D103	A - 19	IC67	E - 16	IC5	μPC4558C	8	4	
D104	A - 19	IC68	F - 16	IC6	TC4069UBP	14	7	
D105	A - 19	IC69	G - 16	IC7	TC4081BP	14	7	
D106	C - 19	IC70	C - 17	IC8	TC4001BP	14	7	
D107	D - 19	IC71	G - 17	IC9	M54529P	14	7	
D108	D - 19	IC72	C - 18	IC10	M54529P	14	7	
D109	D - 19	IC73	D - 18	IC11	TC4081BP	14	7	
D110	D - 19	IC74	E - 18	IC12	TC4001BP	14	7	
D111	F - 17	IC75	G - 18	IC13	TC4071BP	14	7	
D112	F - 17	IC76	B - 19	IC14	TC4001BP	14	7	
D113	F - 17	IC77	C - 19	IC22	TC4069UBP	14	7	
D114	F - 18	IC78	D - 19	IC23	μPC4558C	8	4	
D115	F - 18	IC79	E - 19	IC24	TC4081BP	14	7	
D116	F - 18	IC80	F - 19	IC25	TC4001BP	14	7	
D117	F - 18	IC81	G - 19	IC26	TC4081BP	14	7	
D118	F - 18			IC27	TC4071BP	14	7	
D119	F - 18	Q1	B - 2	IC28	TC4073BP	14	7	
D120	G - 19	Q2	B - 2	IC29	TC4001BP	14	7	
D121	G - 19	Q3	F - 2	IC30	TC4081BP	14	7	
D122	G - 19	Q4	G - 2	IC31	TC4069UBP	14	7	
D123	G - 19	Q5	A - 3	IC32	μPC4558C	8	4	
D124	G - 19	Q6	A - 5	IC33	TC4081BP	14	7	
D125	B - 10	Q7	E - 7	IC34	TC4001BP	14	7	
D126	B - 10	Q8	G - 7	IC35	TC4071BP	14	7	
D127	E - 10	Q9	G - 7	IC36	TC4069UBP	14	7	
D128	D - 2	O10	G - 8	IC37	TC4081BP	14	7	
D130	A - 19	O11	A - 8	IC38	TC4025BP	14	7	
D400	E - 19	O12	A - 9	IC39	TC4069UBP	14	7	
D401	E - 10	O13	A - 10	IC40	TC4069UBP	14	7	
D402	C - 11	O14	A - 10	IC41	TC4071BP	14	7	
D403	A - 15	O15	C - 11	IC42	TC4001BP	14	7	
D404	A - 16	O16	C - 11	IC43	TC4001BP	14	7	
D406	D - 5	O17	A - 11	IC44	M54529P	14	7	
D416	C - 12	O18	A - 12	IC45	TC4081BP	14	7	
D422	D - 7	O19	B - 15	IC46	TC4081BP	14	7	
D501	G - 2	O20	B - 14	IC47	TC4081BP	14	7	
D502	G - 6	O21	A - 15	IC48	TC4011BP	14	7	
D503	G - 6	O22	A - 15	IC49	NJM2903D	8	4	
D504	G - 6	O23	B - 15	IC50	NJM4558D-D	8	4	
D505	F - 9	O24	B - 15	IC51	M54529P	14	7	
D506	A - 19	O25	B - 18	IC52	TC4069UBP	14	7	
D507	A - 19	O26	B - 18	IC53	TC4012BP	14	7	
D508	A - 19	O27	B - 18	IC54	TC4011BP	14	7	
D509	A - 19	O28	B - 18	IC55	TC4013BP	14	7	
		O400	A - 4	IC56	TC4069UBP	14	7	
IC1	B - 1	O401	A - 4	IC57	M54529P	14	7	
IC2	C - 1	O402	E - 2	IC58	TC4001BP	14	7	
IC3	D - 1	O404	B - 3	IC59	TC4081BP	14	7	
IC4	A - 2	Q405	A - 6	IC60	TC4081BP	14	7	
IC5	E - 2	O501	G - 6	IC61	TC4081BP	14	7	
IC6	C - 3	O502	G - 6	IC62	TC4069UBP	14	7	
IC7	D - 3	O503	G - 4	IC63	TC4071BP	14	7	
IC8	E - 3			IC64	M54529P	14	7	
IC9	F - 3	RV2	A - 14	IC65	M54529P	14	7	
IC10	G - 3			IC66	TC4069UBP	14	7	
IC11	C - 4	TP1	A - 5	IC67	M54529P	14	7	
IC12	D - 4	TP2	A - 11	IC68	TC4011BP	14	7	
IC13	E - 4	TP3	A - 15	IC69	TC4001BP	14	7	
IC14	F - 4	TP4	A - 13	IC70	TC4081BP	14	7	
IC15	G - 4	TP9	C - 6	IC71	TC4081BP	14	7	
IC16	A - 5			IC72	TC4013BP	14	7	
IC17	B - 5			IC73	TC4073BP	14	7	
IC18	C - 5			IC74	TC4520BP	16	8	
IC19	D - 5			IC75	TC4001BP	14	7	
IC20	E - 5			IC76	M54529P	14	7	
IC21	F - 5			IC77	TC4081BP	14	7	
IC22	G - 5			IC78	TC4025BP	14	7	
IC23	A - 6			IC79	TC4069UBP	14	7	
IC24	B - 6			IC80	TC4001BP	14	7	
IC25	D - 6			IC81	TC4011BP	14	7	
IC26	E - 6			IC506	TC4001BP	14	7	
IC27	F - 6							
IC28	B - 7							
IC29	C - 7							
IC30	D - 7							
IC31	F - 7							
IC32	G - 7							
IC33	E - 8							
IC34	F - 8							
IC35	G - 8							
IC36	A - 9							
IC37	C - 9							
IC38	D - 9							
IC39	E - 9							
IC40	G - 9							
IC41	C - 10							
IC42	F - 10							
IC43	G - 10							
IC44	A - 11							
IC45	D - 11							
IC46	E - 11							
IC47	F - 11							
IC48	G - 11							
IC49	A - 12							
IC50	B - 12							
IC51	C - 12							
IC52	E - 12							
IC53	G - 12							
IC54	C - 13							
IC55	D - 13							
IC56	F - 13							
IC57	C - 14							
IC58	F - 14							
IC59	G - 14							
IC60	D - 15							
IC61	E - 15							

**SY-75 (1/4)  
(SYSTEM CONTROL)**

S/N UP TO 18450 (U/C)



Y-75 (1/4)

diodes are 1S1555 unless otherwise noted.  
transistors are 2SC1364 unless otherwise noted.

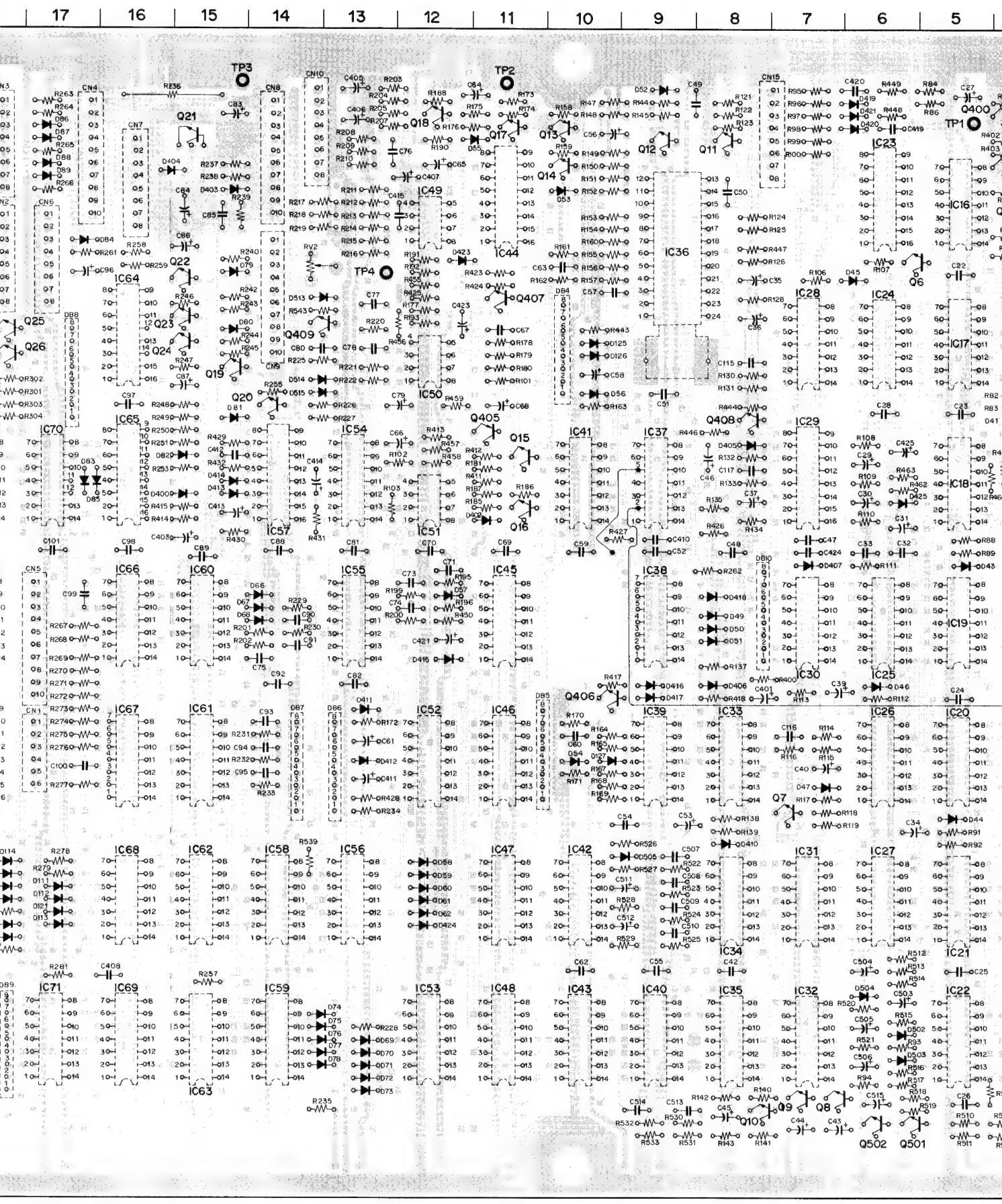
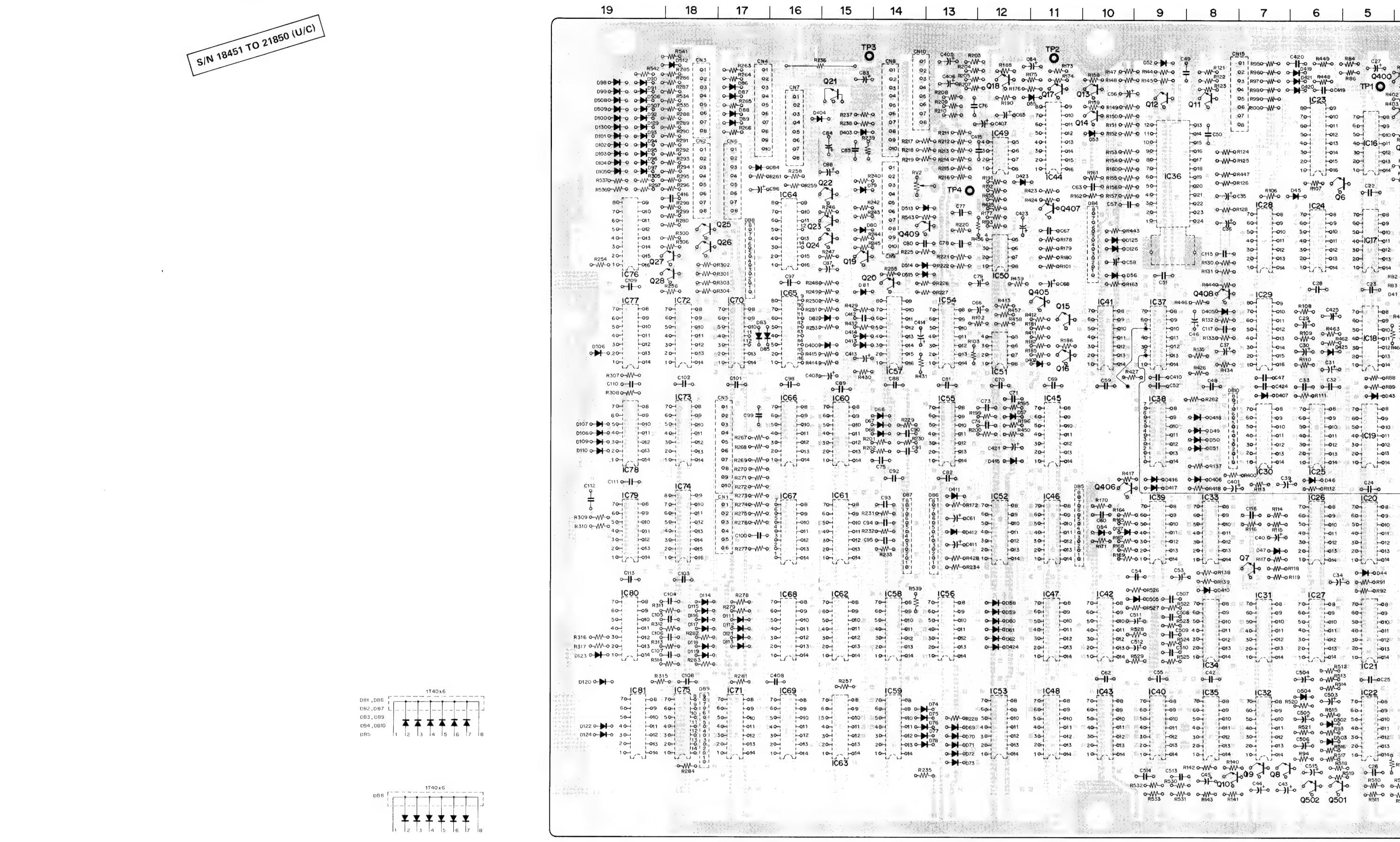
E: The shaded and -marked components are critical to safety.  
Replace only with same components as specified.





## SY-75 (SYSTEM CONTROL)

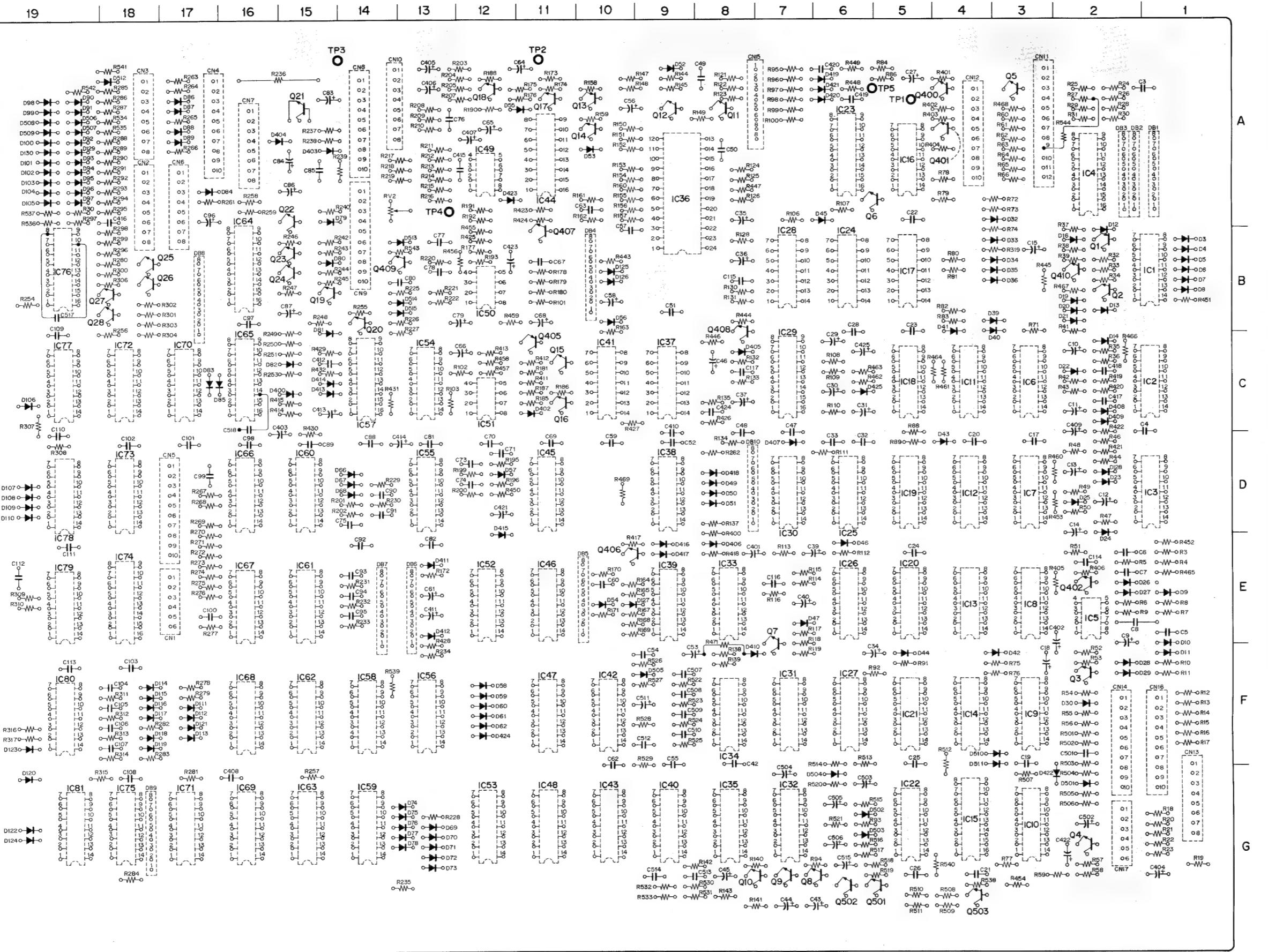
S/N 18451 TO 21850 (U/C)



REF. NO.	TYPE	12V PIN	5V PIN	GND PIN
IC1	TCA091BP	14	7	
IC2	TCA091BP	14	7	
IC3	TCA091BP	14	7	
IC4	TD62302P	8	9	8
	$\mu$ PC4558C			
CN1	E - 17	D96	A - 19	IC26 E - 6
CN2	A - 18	D97	D - 2	IC27 F - 6
CN3	A - 18	D98	A - 19	IC28 B - 7
CN4	A - 17	D99	A - 19	IC29 C - 7
CN5	D - 17	D100	A - 19	IC30 D - 7
CN6	A - 17	D101	A - 19	IC31 F - 7
CN7	A - 16	D102	A - 19	IC32 G - 7
CN8	A - 14	D103	A - 19	IC33 F - 8
CN9	B - 14	D104	A - 19	IC34 F - 8
CN10	A - 14	D105	A - 19	IC35 G - 8
CN11	A - 3	D106	C - 19	IC36 A - 9
CN12	C - 4	D107	D - 19	IC37 C - 9
CN13	G - 1	D108	D - 19	IC38 D - 9
CN14	F - 17	D109	D - 19	IC39 E - 9
CN15	A - 7	D110	D - 19	IC40 G - 9
CN16	F - 1	D111	F - 17	IC41 H - 10
CN17	G - 2	D112	F - 17	IC42 F - 10
		D113	F - 17	IC43 G - 10
A		D114	F - 18	IC44 H - 10
B		D115	F - 18	IC45 D - 11
C		D116	F - 18	IC46 E - 11
D		D117	F - 18	IC47 F - 11
E		D118	F - 18	IC48 G - 11
F		D119	D - 19	IC49 H - 12
G		D120	G - 19	IC50 B - 12
		D121	G - 1	IC51 C - 12
		D122	G - 1	IC52 D - 12
		D123	F - 19	IC53 G - 12
		D124	G - 19	IC54 H - 13
		D125	B - 10	IC55 D - 13
		D126	F - 10	IC56 F - 13
		D127	E - 10	IC57 C - 14
		D128	D - 2	IC58 F - 14
		D129	A - 19	IC59 G - 14
		D130	D - 15	IC60 H - 15
		D131	E - 15	IC61 E - 15
		D132	C - 11	IC62 F - 15
		D133	H - 15	IC63 G - 15
		D134	C - 15	IC64 B - 16
		D135	B - 16	IC65 C - 16
		D136	CX757	IC66 D - 16
		D137	TCA091BP	IC67 E - 16
		D138	TCA025BP	IC68 F - 16
		D139	TCA030BP	IC69 G - 16
		D140	NJM4558DP	IC70 H - 16
		D141	TCA073BP	IC71 I - 17
		D142	TCA001BP	IC72 J - 17
		D143	TCA011BP	IC73 K - 17
		D144	TCA011BP	IC74 L - 17
		D145	TCA023BP	IC75 M - 17
		D146	TCA041BP	IC76 N - 17
		D147	TCA041BP	IC77 O - 17
		D148	TCA041BP	IC78 P - 17
		D149	NJM4558D	IC79 Q - 17
		D150	$\mu$ PC4558C	IC80 R - 17
		D151	TCA012BP	IC81 S - 17
		D152	TCA069UBP	IC82 T - 17
		D153	TCA013RP	IC83 U - 17
		D154	TCA069UBP	IC84 V - 17
		D155	TCA010BP	IC85 W - 17
		D156	TCA010BP	IC86 X - 17
		D157	TCA010BP	IC87 Y - 17
		D158	TCA010BP	IC88 Z - 17
		D159	TCA010BP	IC89 AA - 17
		D160	TCA010BP	IC89 BB - 17
		D161	TCA010BP	IC89 CC - 17
		D162	TCA010BP	IC89 DD - 17
		D163	TCA010BP	IC89 EE - 17
		D164	TCA010BP	IC89 FF - 17
		D165	TCA010BP	IC89 GG - 17
		D166	TCA010BP	IC89 HH - 17
		D167	TCA010BP	IC89 II - 17
		D168	TCA010BP	IC89 JJ - 17
		D169	TCA010BP	IC89 KK - 17
		D170	TCA010BP	IC89 LL - 17
		D171	TCA010BP	IC89 MM - 17
		D172	TCA010BP	IC89 NN - 17
		D173	TCA010BP	IC89 OO - 17
		D174	TCA010BP	IC89 PP - 17
		D175	TCA010BP	IC89 QQ - 17
		D176	TCA010BP	IC89 RR - 17
		D177	TCA010BP	IC89 SS - 17
		D178	TCA010BP	IC89 TT - 17
		D179	TCA010BP	IC89 UU - 17
		D180	TCA010BP	IC89 VV - 17
		D181	TCA010BP	IC89 WW - 17
		D182	TCA010BP	IC89 XX - 17
		D183	TCA010BP	IC89 YY - 17
		D184	TCA010BP	IC89 ZZ - 17

## **SY-75 (SYSTEM CONTROL)**

N 21851 TO 34950 (U/C)

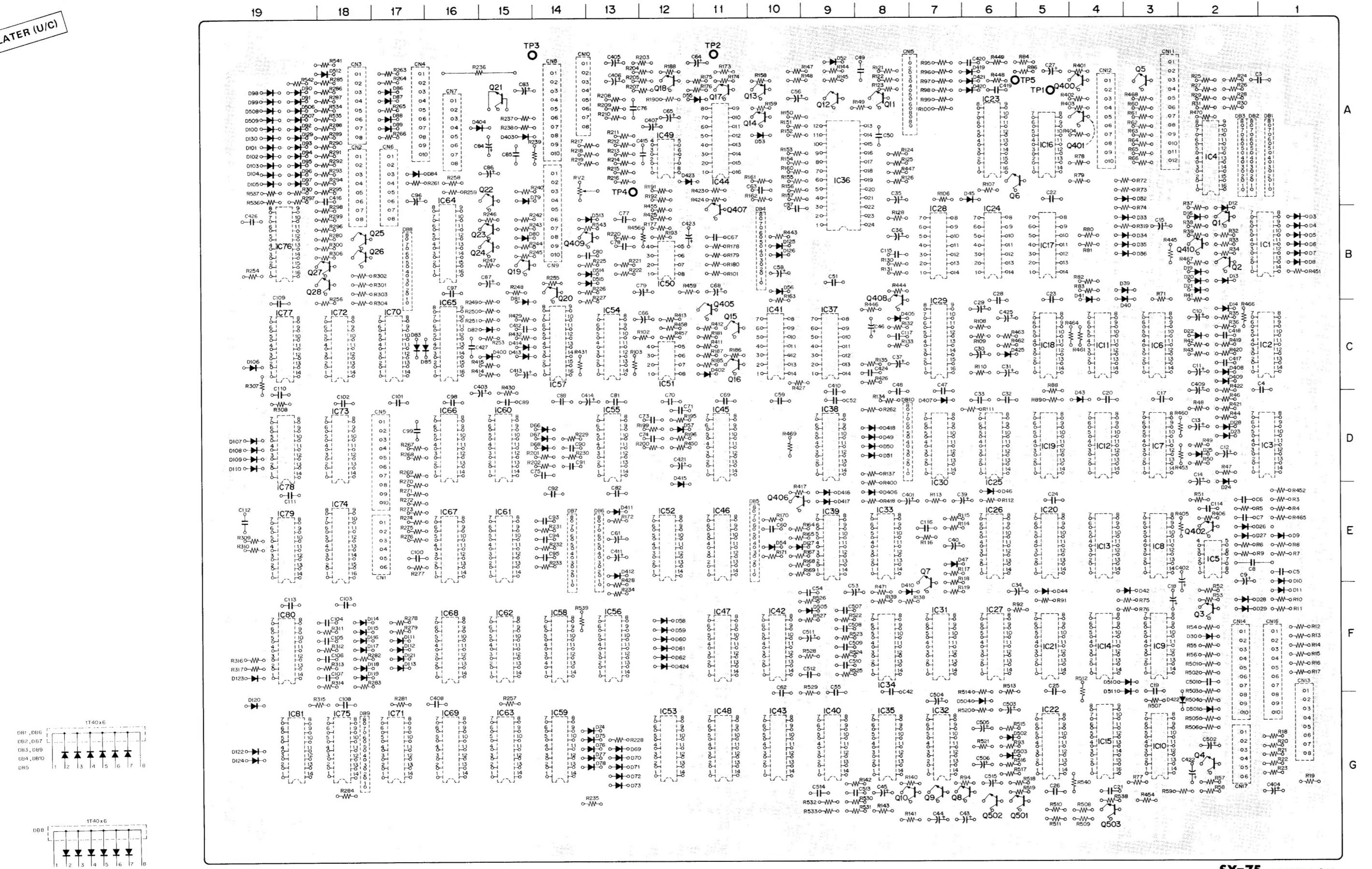


**-75 - SOLDERING SIDE -**

REF. NO.	TYPE	12V PIN	5V PIN	GND PIN
C1	TC4081BP		14	7
C2	TC4001BP		14	7
C3	TC4081BP		14	7
C4	TD62302P		9	8
	$\mu$ PC4558C	8		4
C6	TC4069UBP		14	7
C7	TC4081BP		14	7
C8	TC4001BP		14	7
C9	M54529P		14	7
C10	M54529P		14	7
C11	TC4081BP		14	7
C12	TC4011BP		14	7
C13	TC4071BP		14	7
C14	TC4001BP		14	7
C15	M54519P			
C16	TC4011BP		14	7
C17	TC4071BP		14	7
C18	TC4073BP		14	7
C19	TC4001BP		14	7
C20	TC4081BP		14	7
C21	TC4011BP		14	7
C22	TC4069UBP	8	14	7
C23	TC4020BP		16	8
C24	TC4081BP		14	7
C25	TC4001BP		14	7
C26	TC4071BP		14	7
C27	TC4001BP		14	7
C28	TC4069UBP		14	7
C29	HD14538B		16	8
C30	MC14584BCP		14	7
C31	TC4069UBP		14	7
C32	TC4081BP		14	7
C33	TC4076BP		14	7
C34	TC4001BP		14	7
C35	TC4001BP		14	7
C36	CX75			
C37	TC4081BP		14	7
C38	TC4025BP		14	7
C39	TC4030BP		14	7
C40	TC4069UBP		14	7
C41	TC4073BP		14	7
C42	TC4001BP		14	7
C43	TC4011BP		14	7
C44	TD62302P		9	8
C45	TC4081BP		14	7
C46	TC4081BP		14	7
C47	TC4081BP		14	7
C48	TC4011BP		14	7
C49	NJM2903D			4
C50	NJM4558D-D	8		4
C51	$\mu$ PC4558C			4
C52	TC4069UBP		14	7
C53	TC4012BP		14	7
C54	TC4011BP		14	7
C55	TC4013BP		14	7
C56	TC4069UBP		14	7
C57	HD14538B		16	8
C58	TC4001BP		14	7
C59	TC4081BP		14	7
C60	TC4081BP		14	7
C61	TC4081BP		14	7
C62	TC4069UBP		14	7
C63	TC4071BP		14	7
C64	TD62302P		9	8
C65	TD62302P		9	8
C66	TC4069UBP		14	7
C67	M54529P		14	7
C68	TC4011BP		14	7
C69	TC4001BP		14	7
C70	TC4081BP		14	7
C71	TC4081BP		14	7
C72	TC4013BP		14	7
C73	TC4073BP		14	7
C74	TC4520BP		16	8
C75	TC4001BP		14	7
C76	TD62302P		9	8
C77	TC4081BP		14	7
C78	TC4025BP		14	7
C79	TC4069UBP		14	7
C80	TC4001BP		14	7

## SY-75 (SYSTEM CONTROL)

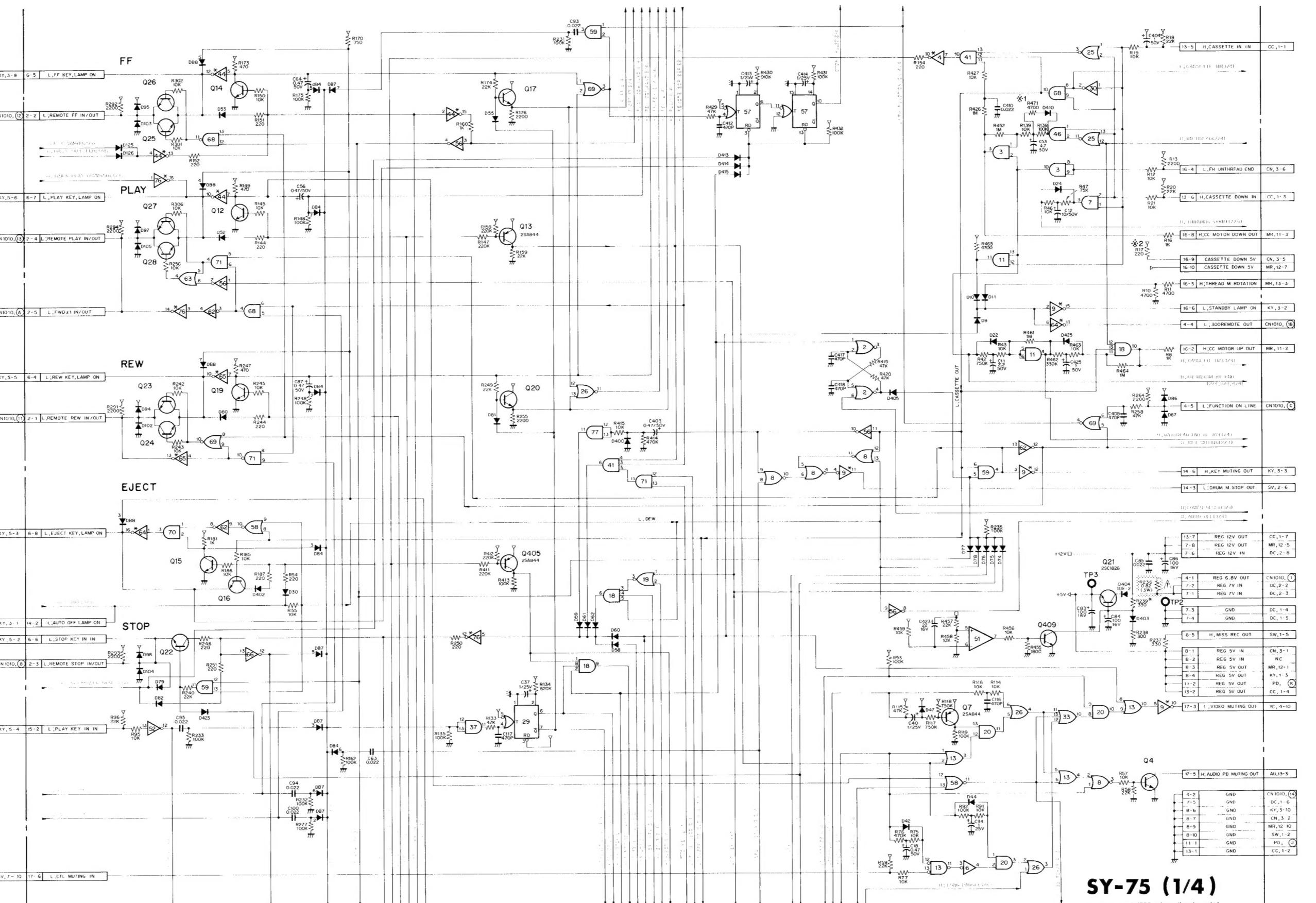
SIN 34951 AND LATER (U/C)



## **SY-75 (1/4) SYSTEM CONTROL)**

S/N 18451 AND LATER (U/C)

MARK	CHANGE INFORMATION	SERIAL NO.		
		VO-5600	U/C:	22351 ~
X1	R471 4700 ADDED	..	J:	11101 ~
		VO-5630	AEP:	22341 ~
		..	UK:	12811 ~
		..	U/C:	10401 ~
X2	R17 330 ~ 220	VO-5600	U/C:	28451 ~
		..	J:	11801 ~
		VO-5630	AEP:	28441 ~
		..	UK:	13811 ~
		..	U/C:	10501 ~



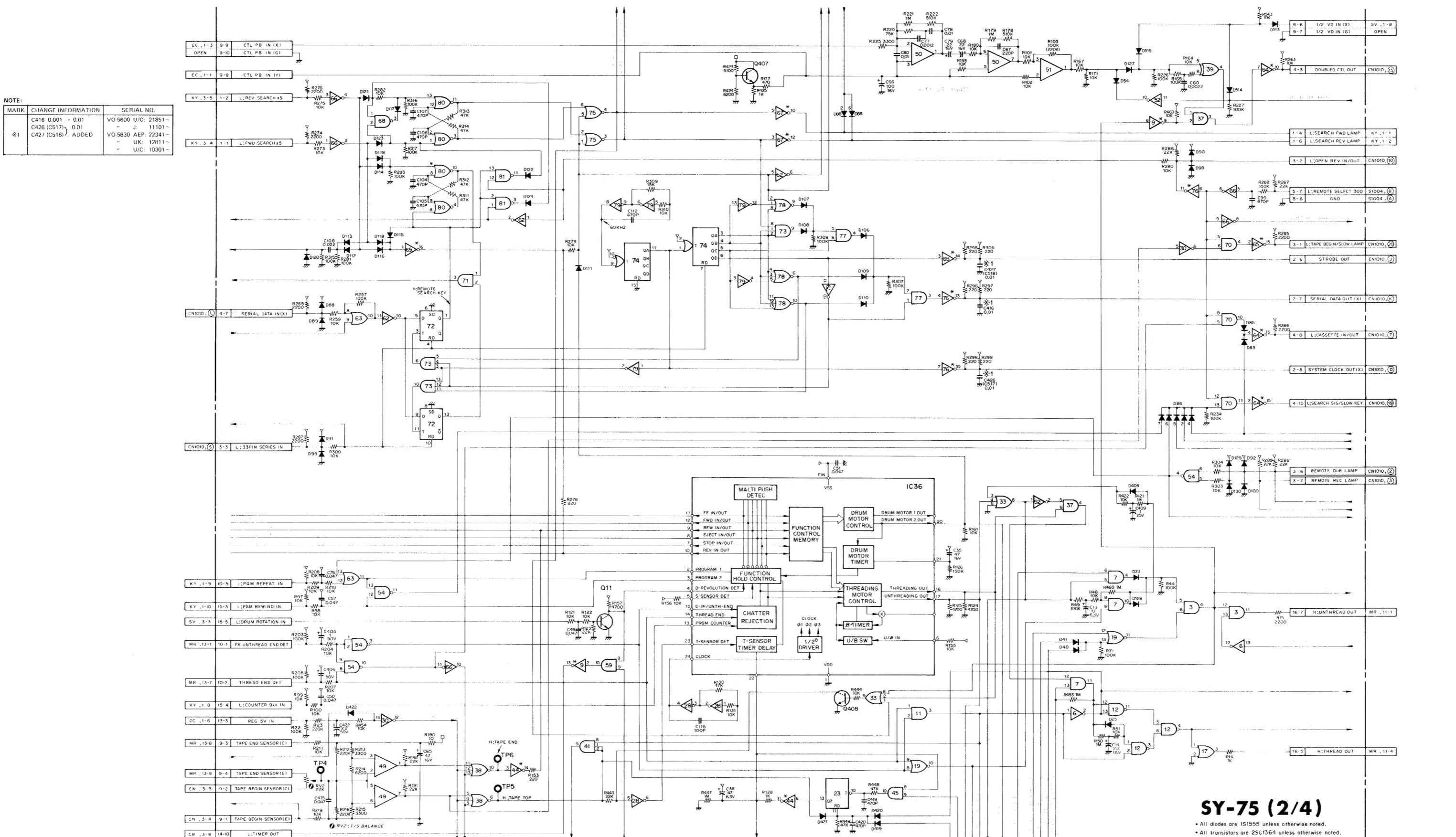
Y-75 (1/4)

transistors are 2SC1364 unless otherwise noted.

E: The shaded and -marked components are critical to safety.  
Replace only with same components as specified.

## SY-75 (2/4) (SYSTEM CONTROL)

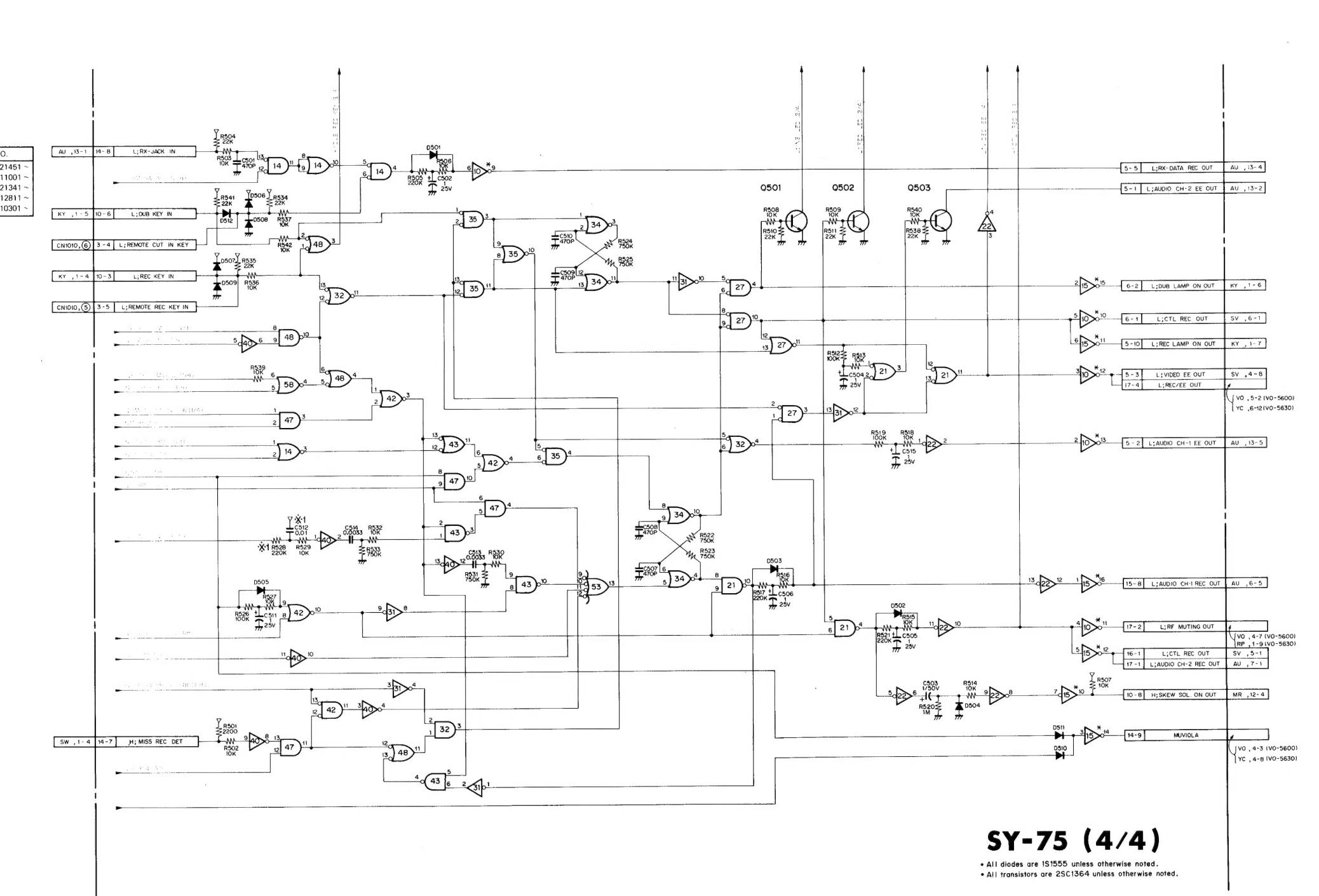
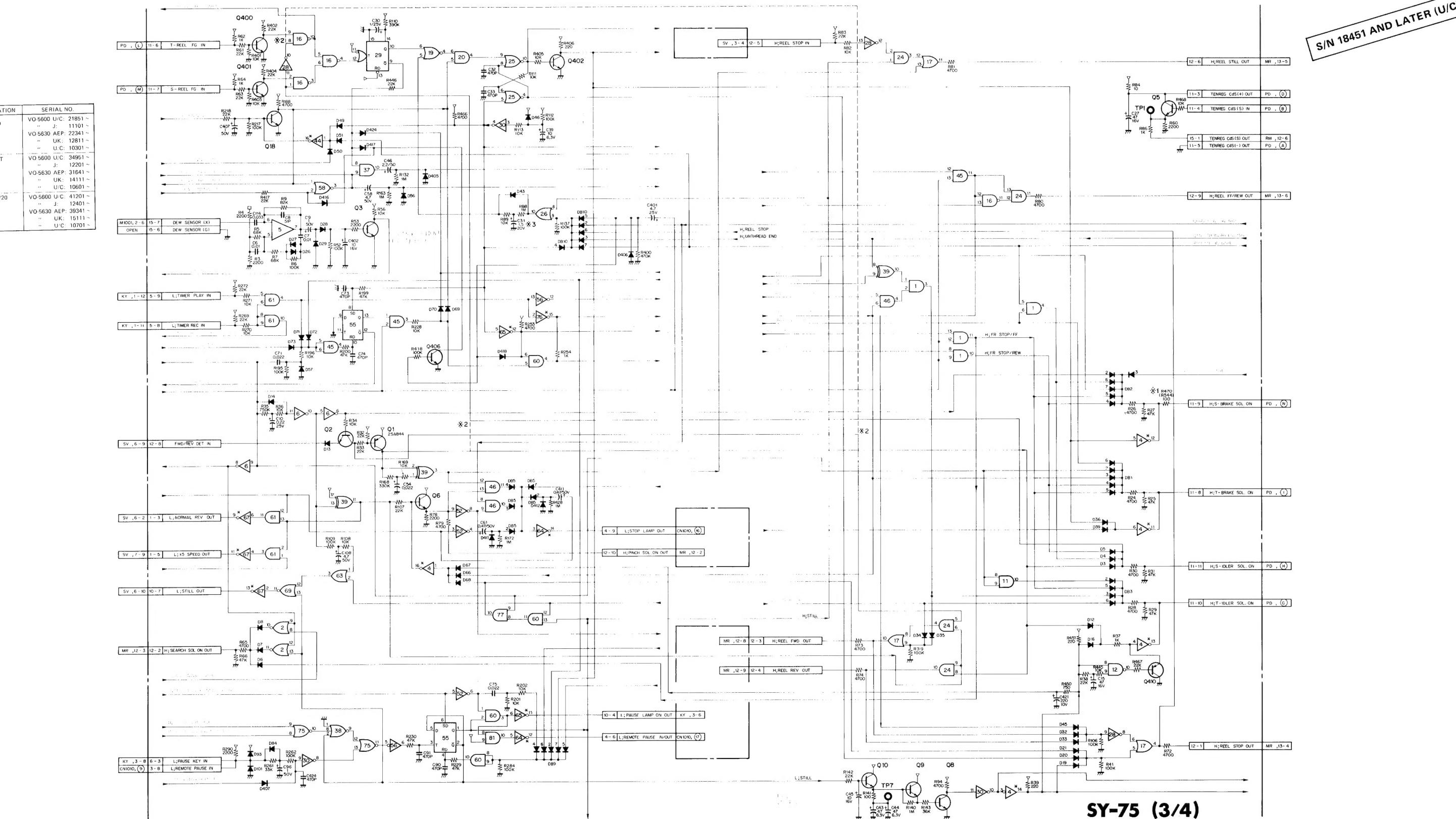
S/N 18451 AND LATER (U/C)



NOTE: The shaded and -marked components are critical to safety.  
Replace only with same components as specified.

## SY-75 (3/4) (SYSTEM CONTROL)

S/N 18451 AND LATER (U/C)



**SY-75**

• All diodes are 1S1555

- All transistors are 2SC

**NOTE:** The shaded and -marked components are critical to safety.  
Replace only with same components as specified.